029.

95. d. 2 Neufchatel

April 1, 1821.] **No. 1,** [Price 8*s*. Plain; 12*s*. Coloured.

TO BE CONTINUED MONTHLY,

Collectanea Botanica;

OR,

FIGURES AND BOTANICAL ILLUSTRATIONS

OF

Rare and Curious Exotic Plants,

CHIEFLY CULTIVATED IN THE GARDENS OF GREAT BRITAIN.

By JOHN LINDLEY, F.L.S. & H.S.

London:

PRINTED BY R. AND A. TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL; T. AND G. UNDERWOOD, FLEET-STREET; W. WOOD, STRAND; HATCHARD AND SON, PICCADILLY; J. HARDING, ST. JAMES'S-STREET; NORNAVILLE AND FELL, BOND-STREET; J. H. BOHTE, YORK-STREET, COVENT-GARDEN.

1821.

L I.1-5. 3. 4. 5. 6.

W 1837. 629

Conf. B. M. Achille Richard: Monographie des Orchidées des Iles de France. v de Bourbon. 61.30.1840

9l
pour 1-6
de
Title 21 plates

Lacks parts 7 + 8 to complete set.

gtb

Fol.
QK98
.L56
1821-26

Collectanea Botanica;

OR,

FIGURES

AND

BOTANICAL ILLUSTRATIONS

OF RARE AND CURIOUS

EXOTIC PLANTS.

By JOHN LINDLEY, F.L.S. & H.S.

MEMBER OF THE IMPERIAL ACADEMY NATURÆ CURIOSORUM OF BONN, ETC.

Mo. Bot. Garden,
1895.

London:

PRINTED BY RICHARD AND ARTHUR TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL; T. AND G. UNDERWOOD, FLEET-STREET; W. WOOD, STRAND; HATCHARD AND SON, PICCADILLY; J. HARDING, ST. JAMES'S-STREET; NORNAVILLE AND FELL, BOND-STREET; J. H. BOHTE, YORK-STREET, COVENT-GARDEN; W. CLARKE, NEW BOND-STREET.

1821.

TO

JOSEPH SABINE, Esq.

FELLOW OF THE ROYAL, ANTIQUARIAN, LINNEAN, AND HORTICULTURAL SOCIETIES OF LONDON;

SECRETARY OF THE HORTICULTURAL SOCIETY;

MEMBER OF THE IMPERIAL SOCIETY NATURÆ CURIOSORUM OF MOSCOW,

OF THE ROYAL ŒCONOMICAL SOCIETY OF POTSDAM, &c.

THE FOLLOWING WORK

IS DEDICATED

IN TESTIMONY OF THE HIGH RESPECT

OF HIS VERY FAITHFUL AND OBEDIENT SERVANT,

THE AUTHOR.

Tab. 1.

BROMELIA FASTUOSA.

NAT. ORD. Bromeliæ, *Juss.* LINN. SYST. Hexandria Monogynia.

BROMELIA *L., Juss.* Calyx duplex, uterque tubulosus, exterior brevior 3-fidus, interior longior petaloideus 3-partitus laciniis ungue appendiculatis. Stamina summo calyci inserta, aut glandulæ calycinæ supra germen productæ (indè quasi epigyna?). Bacca umbilicata polysperma. *Plantæ herbaceæ, quædam parasiticæ; folia radicalia canaliculata, marginibus sæpè dentato-spinosis.* Juss. Gen. 50.

Bromelia, foliis ciliato-spinosis acuminatis mucronatis, racemo rigido composito, racemulis indivisis, floribus sessilibus, bracteis inferioribus linearibus subsecundis. ♃.

DESCR. Acaulis. *Folia* circa caulem fasciculata, 3—5-pedalia, rigida, concaviuscula, ensiformia, undique patentia, distanter spinis uncinatis ciliata, viridia, squamulis minutissimis farinosa; superiora in bracteas abeuntia, coccinea. *Bracteæ* ad basin racemulorum, coccineæ; inferiores angustæ, demum integerrimæ, basi floccosæ, deflexæ; superiores ovatæ, plicatæ, furfuraceæ, pallidiores, erectæ. *Racemus* rigidus, compositus, brachiatus, cubitalis, lætè viridis, undique squamis albis furfuraceus. *Flores* sessiles, carnosi, 2-unciales, secundi, *bracteolis* scariosis suffulti. *Perianthium* superum, duplex: *exterius* 3-partitum, laciniis ovatis, acutis, lætè viridibus; *interius* 3-partitum, ovario longius, laciniis oblongis, canaliculatis, in tubum conniventibus, carmosinis, margine pallidioribus, glaberrimis, apice intùs furfuraceis, exterioribus 3-plò longioribus, post anthesin persistentibus, spiraliter contortis. *Stamina* laciniis perianthii opposita, earumque basibus inserta, submonadelpha, inclusa. *Filamenta* subulata, carnosa. *Antheræ* lineares, innatæ, albidæ, apiculatæ, longitudinaliter dehiscentes, super stigmatibus conniventes. Ad basin staminum laciniis interioribus perianthii oppositorum *fovea* adest alta, nectarifera; sed squamulæ nullæ. *Ovarium* glaucum, inferum, obtusè trigonum, carnosum, triloculare, ovulis plurimis, placentæ axili distichè insertis. *Stylus* 1, subulatus, apice trifidus, filamentorum longitudine: *lobi* recti, carnosi, conniventes. *Stigmata* simplicia, dilatata, obscurè fimbriata. *Fructus immaturus* carnosus.

The seeds of this truly magnificent plant were received, seven or eight years ago, from Mexico by Mr. Lambert, in whose stove at Boyton, in the autumn of last year, it produced flowers, for the first time, probably, in Europe. From its peculiar mode of growth, it is impossible for any drawing to give an adequate idea of the appearance it then presented. Let the reader imagine to himself a plant about three feet high, formed of a mass of leaves shaped like those of the common pine-apple, but from three to five feet long; let the lowest be of a dull dark-green, and the uppermost of an intensely brilliant scarlet; the whole surmounted by a pyramidal tuft of flowers of the most exquisitely delicate crimson; and a faint idea may then be formed of the superb appearance of *Bromelia fastuosa* in perfection. Nor are these beauties ephemeral. Not to mention the length of time during which the scarlet leaves remain, both before and after flowering,—and which, indeed, only perish with the plant itself,—the flowers continue to open daily in long succession, and, even in decay, exhibit traces of their former grandeur. In favourable situations, too, they doubtless would be succeeded by fruit inferior only in beauty to themselves.

It is an undescribed species, resembling in some respects *Bromelia paniculigera* and *bracteata* of Swartz; both of which, besides other differences, are much smaller plants. Its habit is that of true BROMELIA; we mean as constituted by Plumier; and, surely, is so different from that of the pine-apple, his ANANASSA, that we can scarcely doubt the propriety of considering them distinct genera. But at present we have no opportunity of ascertaining the respective limits, and distinctive characters, if such there be, of each. We can, therefore, only call the attention of those to the subject, who may have more ample means of investigating the whole order than we are so fortunate as to possess.

Mr. Lambert has suggested to us, and we think with great propriety, that this is the plant figured by Baron Humboldt in the fore-ground of the forty-first plate of the *Atlas Pittoresque*, growing at the foot of the curious little water volcanoes of Turbaco. Should this conjecture be correct, this plant is a native of New Granada as well as of Mexico.

EXPLANATION OF THE PLATE.

☞ In order to avoid unnecessary repetition, we think it right to premise, that in every plate the details of fructification are to be understood as, more or less, magnified; unless the contrary is stated.

1. Flower, and small portion of the Rachis. 2. The same vertically divided, showing the nectariferous cavity, the insertion of the Stamina, and structure of the Ovarium. 3. Stamina. 4. Pollen. 5. Transverse section of the Ovarium. 6. Style, and Stigmas.

J. Lindley del.

Bromelia fastuosa Loz. VI.

S. Watts sc.

p. 165. VI. 1821.

Tab. 2.

TRIZEUXIS FALCATA.

NAT. ORD. Orchideæ. Sect. 5. *Br. Prodr.* 1. 330. LINN. SYST. Gynandria Monandria.

TRIZEUXIS. Perianthium bipartitum; laciniâ superiore bilobâ; inferiore tripartitâ, inflatâ. Labellum columnâ parallelum, limbo recurvo dilatato. Stigma excavatum. Anthera unilocularis, carnosa. Pollinis massæ 2, pedicello fusiformi carnoso adhærentes, ipsis duplò longiori. *Arboribus parasiticæ. Folia pauca, disticha. Racemi compositi. Flores non resupinati.*

Trizeuxis, foliis falcatis enervibus, floribus confertis. ♃.

DESCR. Arboribus parasitica. *Radices* fasciculati, fibrosi. *Folia* radicalia, disticha, falcata, compressa. *Scapi* ex axillis, paniculati, teretes, fragiles, pallidè brunnei, ad nodos bracteati. *Flores* minimi, capitulis demùm elongatis dispositi, pallidè virides, *bracteis* parvulis, acutis, persistentibus suffulti, non resupinati. *Ovarium* sessile, refractum, perianthio brevius. *Perianthium* subglobosum, bipartitum, laciniis obtusis, semidiaphanis, conniventibus; *superiore* bifidâ, planâ, *inferiore* tripartitâ, inflatâ, galeæ recurvæ ad instar, lobo intermedio majore. *Labellum* columnæ appressum, et cum eâ articulatum, concavum, carnosum, apice recurvum, ovatum, acutum, subundulatum, luteum, utrinque auriculatum, laciniis cæteris paululùm longius. *Columna* subcylindrica, clavata, labello duplò brevior, apice anticè utrinque obscurè unidentata. *Stigma* excavatum, viscidum, lateribus involutis columnæ partim clausum. *Anthera* terminalis, 1-locularis, mobilis, operculiformis, decidua; superficie granulosâ. *Massæ pollinis* 2, breves, cereaceæ, parallelæ, in apice columnæ, juxta cardinem antheræ jacentes, utrinque pedicello ipsis duplò longiori, fusiformi, albo, diaphano adnatæ. *Glandula* intensè lutea, viscida, quoad axim columnæ verticalis, apicem stigmatis et pedicellum massarum connectens.

If we were requested to select the most interesting from the multitude of vegetable tribes, we should, on the whole, perhaps, be willing to give the preference to the natural order of ORCHIDEÆ. Whether we consider general elegance of individuals, durability of blossoms, splendid colours, delicious perfume, or extraordinary structure, it would be difficult to select any order superior to Orchideæ in these respects, and few even equal to them. To the cultivator, who esteems plants for their beauty only; to the botanist, who, rejecting outward attractions, is chiefly captivated by anomalous structure, or intricate organization; or to the amateur, who wisely prefers to have these requisites combined; to all, or any of these, we conceive that accurate figures of foreign Orchideous plants cannot fail to be particularly acceptable. We therefore propose to publish one species of this family in each succeeding number; and we hope to be able soon to add such important information with respect to the treatment of Orchideæ, as will entirely remove the present difficulty of cultivating them, and as may enable any one to manage them as readily as the most common plants of our hot-houses.

We are obliged to Mr. Griffin for the communication of this very curious little parasitical plant, which flowered in his stove, last July, immediately after its arrival from Trinidad.

It is perhaps of the same genus as some supposed species of *Cranichis*; but does not appear to have been hitherto taken up by botanical writers. It, however, differs from *Cranichis*, and from every other genus of the same section, in the characters we have assigned it above. The curious manner in which the segments of the perianthium are united,—the two lateral outer ones and the inferior outer and lateral inner segments partially cohering in two divisions, which are themselves slightly connected towards their base,—is very remarkable. Something analogous takes place in *Masdevallia, Restrephia, Pleurothallis,* &c. which are otherwise very different.

We have described the flowers as not resupinate; agreeably to Mr. Brown's very ingenious and correct idea, that the Labellum becomes the lowest segment in *Orchis, Ophrys,* &c., from a twist of the Ovarium, or of its stalk, and that, therefore, the flowers of those genera are in reality resupinate, properly speaking; and not those which, like the present plant, have the Labellum above the Columna.

EXPLANATION OF THE PLATE.

1. Flower seen laterally. 2. Front view of the same. 3. Labellum and Columna exposed by the removal of the Perianthium. 4. Columna separate, with Anther and Stigma. 5, 6. Different views of the same. 7. The same divided through its axis, exhibiting half the Stigma. 8. Masses of Pollen with their stalk and gland.

Trizeuxis falcata? $\frac{XX}{1}$

Sp. 3012 $\frac{XX}{1}$ III 732.

J. Lindley

Tab. 3.

RAPHIOLEPIS RUBRA.

Nat. Ord. Rosaceæ. Sect. 1. Pomaceæ, *Juss.* Linn. Syst. Icosandria Digynia.

RAPHIOLEPIS, *Lindl.* Calyx infundibularis, 5-dentatus, deciduus. Filamenta filiformia. Ovarium 2-loculare. Pomum disco incrassato clausum, endocarpio chartaceo. Semina 2, gibbosa. Testa coriacea crassissima. *Frutices (Chinæ). Folia sempervirentia, crenulata, coriacea, reticulata. Racemi terminales, sæpè bracteis persistentibus squamosi.* Lindl. in Bot. Reg. 6. 468.

Raphiolepis, foliis ovato-lanceolatis utrinque acuminatis, petalis lanceolatis, staminibus rectis calyce brevioribus. ♄.
Cratægus rubra. *Lour. Fl. Cochinch. 320* ?

Descr. *Rami* teretes, graciles; juniores pilosi. *Folia* alterna, ovato-lanceolata, utrinque acuminata, petiolata, persistentia, serrata, glaberrima; adulta coriacea. *Stipulæ* subulatæ. *Racemi* terminales, recti, thyrsoidei, pilosi, *bracteis* subulatis, deciduis squamulosi. *Flores* albi. *Calyx* inferus, pilosus, 5-dentatus; dentibus subulatis et limbo deciduis. *Petala* lanceolata, patentia, concava, dentibus calycinis longiora. *Stamina* 20, pallidè rubra, erecta, dentibus calycinis breviora, alternatim minora, calycis limbo infra dentes inserta, et cum eo decidua. *Antheræ* luteæ, ovatæ. *Ovarium* inferum, 2-loculare; loculis dispermis. *Styli* 2 ad basin connati, filiformes, staminibus paulò longiores. *Stigmata* simplicia. *Fructus* (speciei alterius ?) carnosus, pisiformis, purpureus, disco persistente coronatus, unilocularis, dispermus, *endocarpio* coriaceo. *Semina* hinc plana, indè convexa, erecta, testâ crassâ coriaceâ.

In a dissertation on the 1st section of Jussieu's Rosaceæ, about to be published in the Transactions of the Linnæan Society, we have endeavoured to apply to practice the too much neglected golden rule of Linnæus, that characters should be derived from the genus, and not the genus from a set of arbitrary characters. Pursuing this principle, we have separated from the assemblage of plants comprehended under the title of *Cratægus* by Linnæus, and of *Mespilus* by Sir James Edward Smith, certain species very unlike the portion of *Cratægus* from which our ideas of that genus ought to be derived. Among others, we have established the genus *Raphiolepis* upon the *Cratægus indica* of Linnæus; a name which seems to have been since applied to several plants sufficiently different from each other to be considered distinct species, and not agreeing among themselves in characters more than the species of a natural genus are expected to do.

What the precise plant may have been which Linnæus intended by *C. indica*, it is not now perhaps very easy to determine. Loureiro, who first distinguished two species, ascribes to his *C. indica* roundish petals, and to his *C. rubra* lanceolate petals. Of the former there are specimens in Sir Joseph Banks's herbarium, brought from Macao by Mr. Henry Bradley; but, we believe, not in the gardens of this country. The plant we have now before us, we have little hesitation in considering the latter. At least, we are persuaded that Loureiro had either this plant in view, or a nearly related species, which we shall presently have occasion to notice.

Our figure is taken from a plant which flowered in the Physic garden at Chelsea, under the management of Mr. Anderson. There is a specimen of it in the Banksian herbarium, brought from China by Bladh.

Besides this, we believe there are several plants in the collections about London, which will constitute as many distinct species. Among them may certainly be included a shrub imported from China by the Horticultural Society, and published provisionally as *Cratægus indica*, with a very good figure, by our friend Mr. Ker, in the Botanical Register. This plant, which we propose to name *Raphiolepis phæostemon*, differs from the *R. rubra* in having spreading red stamens longer than the calyx, and much longer leaves. In the same interesting collection, from which *R. phæostemon* was obtained, we remarked a fourth species with long willow-like leaves, which may be distinguished by the name of *R. salicifolia*.

Our figure of the fruit was obtained some time since from a specimen in the Banksian herbarium; but from what particular species it was taken, we neglected at the time to remark.

In our gardens the plants of this genus never rise above the stature of little shrubs. Loureiro describes them as large trees; and tells us that the wood of his *C. indica*, on account of its toughness, is manufactured into oars or spars, in which strength and elasticity are required.

Explanation of the Plate.

1. Flower. 2. The same deprived of petals. 3. The same divided vertically, showing the insertion of Stamens and Ovula. 4. Young fruit, the Calyx having fallen off. 5. Stigma and part of Style. 6. Ovarium divided transversely. 7. Anthers. 8. Fruit, natural size. 9. The same magnified. 10. Section of the same. 11. Seed. 12. Abortive seed, showing the nature of the Testa.

J. Lindley

Raphiolepis rubra. (987 $\frac{XII}{2}$ Sp. 855 $\frac{XII}{2}$ conf. *Raphiolepis indica* ✱ II 13.
Crataegus rubra Lour. 987. Poir. $\frac{XII}{2}$ Sp. 855 $\frac{XII}{2}$ II 508

Tab. 4.

PILEA MUSCOSA.

NAT. ORD. Urticeæ, *Juss.* LINN. SYST. Monœcia Tetrandria.

PILEA. Flores monoici. ♂. Calyx 4-partitus membranaceus. Stamina 4 elasticè dissilientia. ♀ Calyx 3-phyllus sepalo altero gibboso carnoso. Stigma sessile fimbriatum. Achenium deciduum. *Herbæ v. Suffrutices, demissæ (Indiæ occidentalis). Folia glabra, carnosa, transversim rugosa, exstipulata. Flores axillares; masculi pedunculati, subsolitarii; fœminei capitati, involucrati, persistentes.*

Pilea, caulibus herbaceis cæspitosis, capitulis solitariis, foliis obovatis glaberrimis. ♃.
Parietaria microphylla. *Linn. Sp. Pl.* 1492.
Urtica microphylla. *Swartz Fl. Ind. oc.* 1. 305. *Willd. Sp. Pl.* 4. 359.

DESCR. *Herbula* depressa, ramosa, glaberrima, cæspitosa, ad nodos radicans, caulis internodiis tumidiusculis. *Folia* carnosa, oblonga, ovata v. obovata, sparsa; minora sessilia, majora petiolata, transversim rugosa, suprà et subtùs ferè concolora. *Flores* diclines, monoici; ♂ subsolitarii, erecti, *pedunculo* apice articulato. *Calyx* semidiaphanus, rubescens, deciduus, 4-partitus, laciniis obtusis, reflexis. *Stamina* 4, elasticè dissilientia. *Antheræ* ovatæ. ♀ *Capitulus* 6—10-florus, floribus masculis oppositus, pedicellatus, deflexus. *Involucrum* polyphyllum, foliolis parvis, ovatis, acutis, diaphanis. *Flores* pedicellati, pedicellis inarticulatis. *Calyx* 3-phyllus: *sepala* inæqualia, vasculosa: duo *exteriora* diaphana, ovata, obtusa; *interius* majus, crassum, gibbosum, quasi cucullatum, (undè nomen,) margine membranaceo colorato; ut et apices omnium. *Ovarium* ovatum, tuberculatum, uniloculare. *Ovulum* solitarium, pendulum, extremitate alterâ ovario chordulâ affixum. *Stigma* sessile, fimbriatum. *Achenium* calyce inclusum, deciduum, ovatum, pulicare, obscurè tuberculatum. *Pericarpium* fragile. *Semen* pendulum. *Embryo* rectus, in axi *albuminis* carnosi, parci. *Cotyledones* oblongi, crassi, *radiculâ* conicâ superâ paulò longiores.

This is one of the many plants whose beauties are only detected by the eye of the curious observer; but which, when scrutinized with the aid of a microscope, offer features, modest indeed, but not less interesting than those of their more gaudy neighbours. We first observed it in the elegant hothouse of the Comte de Vandes at Bayswater, forming a little tuft of a lively and agreeable green, not very unlike young plants of *Theligonum Cynocrambe*, for which we have seen it mistaken. Dr. Swartz found it growing in abundance in moist places and on old walls in the West Indies, and ascertained it to be the *Parietaria microphylla* of Linnæus. Its characters, however, appearing to resemble those of *Urtica* more than of *Parietaria*, he transferred it from the latter to the former genus, and it stands in his *Flora Indiæ occidentalis* under the name of *Urtica microphylla*.

When difference of opinion arises between two great men respecting the genus to which a particular plant is to be referred, it usually happens that the subject of dispute belongs to neither; and such is the case with the plant before us. Its whole habit is totally dissimilar to that of *Urtica*, and it has not much greater resemblance to *Parietaria*. Its smooth fleshy leaves, entirely destitute of the pungent hairs of *Urtica*, remarkable for the transverse plaits of their surface, which become very conspicuous in the dried specimen, are quite unlike any thing in either genus. The fleshy, gibbous, inner segment of the female flower, added to some other peculiarities of structure, has therefore induced us to propose it as the type of a new genus, to which *U. Herniarioides* and *Trianthemoides* may be referred, with a fourth species brought from the West Indies by Von Rohr, and now in the Banksian herbarium.

The *Herniaria lucida aquatica* of Sloane, which is usually cited to this plant, seems to us decidedly to belong to *Pilea Trianthemoides*.

The second point of attachment of the Ovulum, which is supposed to be indicated in the ripe seed by the Micropyle, is in this plant at that end of the Ovulum which is furthest from the Hilum. This is a curious fact; and invalidates an observation first made, we believe, by M. Auguste St. Hilaire, that as the Radicle is always turned towards the Micropyle, its future direction may be determined by the second point of attachment of the Ovulum.

EXPLANATION OF THE PLATE.

A. A small portion of the plant, showing the relative situation of the male and female flowers. 1. Male flower closed. 2. The same burst open by the elastic Filaments. 3. Head of female flowers. 4. Female flower separate, without the Ovarium. 5. Ovarium. 6. The same divided vertically, exhibiting the double attachment of the Ovulum. 7. Stigma. 8. Achenium. 9. The same divided vertically, showing the situation of the Embryo. 10. Embryo separate.

Pilea Muscosa Lindl. XVI 4

Urtica muscosa Roxb. Cor. Pl. 3. 22.

J. Lindley.

Tab. 5.

PTEROSPORA ANDROMEDEA.

Nat. Ord. Monotropeæ, *Nuttall.* Linn. Syst. Decandria Monogynia.

Pterospora, *Nutt.* Calyx 5-phyllus. Corolla monopetala ovata 5-dentata. Stamina 10. Antheræ calcaratæ. Capsula umbilicata 5-locularis 5-valvis. Semina apice alata. *Herba brunnea, viscido-hirsuta. Folia squamiformia. Flores racemosi.*

Pterospora Andromedea. *Nutt. Gen.* 1. 269.

Descr. *Herba* brunnea, parasitica? viscido-hirsuta. *Caulis* simplicissimus, teres, striatus, spithamæus, vel cubitalis. *Folia* sparsa, lineari-lanceolata, squamiformia, glaberrima, acuminata, uninervia; inferiora confertiora, et paulò majora. *Racemus* terminalis, cylindraceus. *Flores* cernui, bracteolati. *Calyx* 5-phyllus, *sepalis* ovato-lanceolatis, corollâ brevioribus, serrulatis, appressis. *Corolla* perigyna, alba, apice rosea, ovata, glaberrima, 5-dentata, dentibus æstivatione valvatis, brevibus, recurvis, obtusis. *Stamina* 10, hypogyna, pistilli longitudine. *Filamenta* ligulata, per axin crassiora, sursùm attenuata. *Antheræ* anticæ, incumbentes, stigmati appressæ, 2-loculares; *loculis* lateralibus, longitudinaliter dehiscentibus, inæqualibus; posteriore minore, apice in calcare reflexo producto. *Pollen* sphæricum, hic et illic papillosum. *Ovarium* disco nullo, 5-loculare; loculis gibbosis, semidistinctis. *Placentæ* dilatatæ, polyspermæ, in loculos protrusæ. *Stylus* teres. *Stigma* conicum, obscurè 5-lobum. *Capsula* depressa, pisi majoris magnitudine, rotundato-pentagona, apice umbilicata, stylo persistente coronata, 5-locularis, 5-valvis; *valvis* vix plusquam apud marginem dehiscentibus, medio septiferis. *Semina* plurima, minutissima, *alâ* terminali, duplici, reticulatâ cristata. *Testa* tenuis, fragilis, reticulis medio elongatis, ad utramque extremitatem coarctatis. *Embryo* minutus, obovatus, indivisus, in apice albuminis carnosi.

Obs. Testa triplex; exterior fragilis, intermedia spongiosa, intima tenuissima, utrinque in apiculo contracta.

We are much gratified by having an opportunity of publishing this exceedingly rare and curious North American plant. Our figure is taken from very complete specimens gathered near Quebec by Mr. John Gouldie. Mr. Nuttall, who first described it, appears to have had imperfect materials for examination; for he describes his plant as entirely destitute of leaves, which, nevertheless, are undoubtedly present under the form of scales, clothing the stem. It probably might be cultivated in peat soil among other American plants; and its very pretty flowers, and curious appearance, would make it no contemptible addition to our botanical riches from that quarter of the world.

Mr. Nuttall refers it to his natural order of Monotropeæ, which would have been better called Pyroleæ, along with *Monotropa, Hypopitys* and *Schweinitzia*; but he does not absolutely include *Pyrola*, notwithstanding its evident affinity with the other genera, and especially with *Pterospora*. In the somewhat inaccurate character of the genus which Mr. Nuttall has given, the structure of the seeds is not described; which, however, establishes beyond doubt the propriety of placing it and *Pyrola* near each other in any natural arrangement.

The embryo is very small, apparently undivided, as Gærtner describes that of *Pyrola* to be, and like it placed at the extremity of the fleshy albumen; but there is a remarkable difference between my observations on the embryo of *Pterospora*, and those of the learned and laborious carpologist just mentioned upon *Pyrola*. He has described and figured the embryo of the latter as at that end of the seed which is next the hilum. After a most careful examination of *Pterospora*, it appears to us that its structure is just the reverse; and that its embryo is at that extremity of the albumen which is furthest removed from the hilum. The structure of *Pyrola* is nevertheless so very similar to that of *Pterospora* in other respects, that we entertain no doubt of the resemblance equally existing in the seeds. We are therefore disposed to question the correctness of the observations of ourselves or Gærtner, rather than the resemblance of the two genera; especially as the extreme minuteness of the parts, from which the still more minute character of the embryo is derived, is such as fully to justify us in our uncertainty. We confess that the admirable accuracy of Gærtner, and the analogy of *Pyrola* with Ericeæ, induce us to fear we may have been mistaken; but as we have examined the seeds of *Pterospora* with the utmost attention, repeatedly; and as we have never had an opportunity of dissecting those of *Pyrola*, we can only confess our doubts candidly, and our regret at being obliged to leave the subject of dispute, for the present, undetermined.

Monotropeæ are readily and satisfactorily distinguished from Ericeæ by their peculiar habit, winged seeds, and minute embryo placed at one extremity of a fleshy albumen.

Explanation of the Plate.

1, 2. Flower in different positions. 3. The same taken from the Calyx and laid open. 4. Stamens surrounding the Ovarium. 5. Ovarium. 6. The same divided transversely. 7. Style and Stigma. 8. Anthers closed. 9. The same burst. 10. Pollen. 11. Capsule. 12. Transverse section of the same. 13. Seeds, natural size. 14, 15. The same magnified. 16. The same divided vertically, showing the position of the Embryo. 17. Nucleus, showing the spongy substance which connects the outer and inner surfaces of the Testa. 18. Embryo separate.

May
~~April~~ 1, 1821.] **No. 2,** [Price 8*s*. Plain; 12*s*. Coloured.

TO BE CONTINUED MONTHLY.

Collectanea Botanica;

OR,

FIGURES AND BOTANICAL ILLUSTRATIONS

OF

Rare and Curious Exotic Plants,

CHIEFLY CULTIVATED IN THE GARDENS OF GREAT BRITAIN.

By JOHN LINDLEY, F.L.S. & H.S.

London:

PRINTED BY R. AND A. TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL; T. AND G. UNDERWOOD, FLEET-STREET; W. WOOD, STRAND; HATCHARD AND SON, PICCADILLY; J. HARDING, ST. JAMES'S-STREET; NORNAVILLE AND FELL, BOND-STREET; J. H. BOHTE, YORK-STREET, COVENT-GARDEN; W. CLARKE, NEW BOND-STREET.

1821.

COLLECTANEA BOTANICA.

THE object of this work is to exhibit accurate figures, accompanied by ample botanical illustrations, of the rare, or curious, or otherwise interesting plants which are either now cultivated in the gardens of Great Britain, or which it may be hereafter desirable to introduce. The drawings will be prepared by the author. The plates will contain all the details of the parts of fructification which it may be possible to procure; and it is hoped that, from this circumstance, they will not only be entitled to as high a degree of importance as any illustrative of botanical subjects, in this country, can claim; but, from the ample explanations to be given of them in the text, that they will offer an easy, and at the same time pleasing, introduction to the knowledge of vegetable organization.

To avoid the imputation of forcing upon the world, delineations of vegetables which have been already correctly and completely published by others, it is intended in the present work to figure none which have before appeared in the popular productions of the day, unless for the purpose of explaining some novel fact in their history, or structure, which may render such a measure justifiable. The materials already collected for the use of the work are considerable; and from the assurance he has received of support from his numerous friends in the vicinity of London, the author confidently ventures to anticipate an uninterrupted succession of novelties.

For the convenience of those who may favour the work with communications of sufficient extent to render it desirable, the plan, first proposed by Dr. Hooker in his elegant *Musci Exotici*, will be followed, of heading each page with a running title (such as *Lambertianæ, Cattleianæ, Griffinianæ, &c.*) expressive of the collection from which the subject of it was received. Purchasers will then have an opportunity of binding up the figures of their own plants separately.

To appear in monthly numbers; ten numbers to form a volume; each number to contain five plates in folio, and at least as many corresponding pages of letter-press. Price 8*s.* plain; 12*s.* coloured.

It was originally intended that a few copies should have been prepared with plates more highly finished than those of the common sets: but Subscribers are respectfully informed, that on more mature consideration it has been deemed advisable that this part of the plan should be relinquished. No other copies will therefore be delivered than those at 8*s.* uncoloured, and 12*s.* coloured.

A list of subscribers will be published at the close of the first volume.

Pterospora Andromedea (Nutt.)

J. Lindley

Tab. 6.

VANDA TERETIFOLIA.

NAT. ORD. Orchideæ. Sect. 5. *Br. Prodr.* 1. 330. LINN. SYST. Gynandria Monogynia.

VANDA, *Br.* Labellum calcaratum, cum base simplici (breviusve productâ) Columnæ apteræ continuum, trifidum, lobo medio carnoso. Petala patentia distincta. Massæ pollinis 2, obliquè bilobæ. *Brown in Bot. Reg.* 506.

Vanda foliis teretibus, perianthii laciniis interioribus brevioribus. 2.

DESCR. *Rami* stricti, teretes, foliosi, *radices* pallidas, tortuosas promentes. *Folia* teretia, 2-uncialia, internodiis 3-4-plò longiora, cum caule et vaginâ articulata. *Spica* simplex, horizontalis, foliorum longitudine, 5-flora. *Flores* majusculi, ante anthesin cuneati, resupinati; *laciniæ* oblongæ, reflexæ, lurido-luteæ, obtusæ, dorso et tribus nervis intùs sanguineis; *duabus interioribus* brevioribus. *Labellum* album, ovatum, dependens, laciniis longius, cum processu villoso columnæ elasticè articulatum, basi in calcare obtuso, sanguineo, lineato productum, versùs apicem utrinque 1-dentatum, *dentibus* erectis apice coloratis. *Calcar* dimidiâ inferiore 2-loculare, *membranâ* transversâ foraminibus duobus pertusâ, pro receptione baseos *corporis carnosi*, compressi, triangularis, margine et apice 2-corni pilosis, dorso interiori calcaris affixi. *Columna* laciniis multò brevior, lurido-lutea, parte anteriore villosâ, planâ, apice utrinque 1-denticulatâ, lineâ pilosâ ab utrâque dente decurrente; *anticè* circa faucem stigmatis membranâ quadratâ, erectâ, cartilagineâ. *Anthera* terminalis, opercularis, persistens, anticè elongata, 2-locularis, loculis discretis. *Massæ pollinis* 2, cereæ, duræ, integræ, posticè obscurè foveatæ, *pedicello* affixæ apice falcato compresso, basi in membranâ cartilagineâ, 3-laterali dilatato, quæ, ejus lateribus membranis faucis stigmatis applicatis, fit quoad stigma horizontalis. *Stigma* infundibulare, purpureum, viscidum: *glandulâ* massarum pollinis pedicello medio proximâ. *Ovarium* perianthio longius, contortum.

Among the many inexplicable phænomena connected with the geography of plants, there is one which cannot fail to strike the most careless observer. We mean the well-known fact, that countries widely separated by nature produce plants, the mutual resemblance of which is so strong, that without an actual comparison of specimens they would be pronounced to be absolutely the same; but which such an examination shows to be really and sufficiently distinguished by some character or other. Thus Mr. Brown has ascertained, since the publication of his Prodromus, that the *Marsilea 4-folia* of New Holland is different from the plant which bears the same name in Europe; the *Quince* of China is not the same as the *Quince* of this country, although similar to it; the *Rosa setigera* of Georgia and the *Rosa sinica* of China assume appearances under which they could scarcely be distinguished, although most truly distinct species. We are led to these remarks by the striking similarity between the plant we have now before us and the *Epidendrum triste* of Forster. Of this there exists an unpublished figure, by G. Forster, in the Banksian collection, made in New Caledonia, where only it has been discovered. At first sight we thought it was certainly the same as our *Vanda teretifolia*, which is a native of China. The singular leaves, the mode of growth, the inflorescence, the roots of the two plants, are alike; and in the bird-like form of the expanded flower they also agree. But Forster's plant has a dark labellum, and a perianth with the inner segments longest, which in ours are the shortest with the labellum white.

Vanda is a generic name applied by Mr. Brown, in the Botanical Register, to a parasitical plant from India, with flat channelled leaves and fine showy blossoms. Of this plant the character is said not to agree entirely with *Aerides paniculatum* of the same work; but at the same time to resemble it in so many particulars, as to render it advisable that the definition of the genus should be modified in such a manner as to include both. It is on this account, chiefly, that we have referred our subject to *Vanda*, from which, it must be confessed, it differs remarkably in habit.

The manner in which fœcundation takes place in *Orchideæ* has always been a problem in botany, which has never yet been satisfactorily solved. On account of the obstacles which the economy of this family presents to the usual method provided by nature for the fertilization of the vegetable embryo, it has been thought that the immediate application of the pollen to the stigma is not in them of its usual importance, and that the necessary communication between the organs must take place by intus-susception. Without absolutely avowing ourselves satisfied with this, we may adduce this plant as a strong instance in its favour. For it appears impossible that its pollen masses can ever escape from the box-like anther in which they are shut up; and even if it were possible that such an event could take place, it must happen after the expansion of the flower, when the masses are hard and dry and seem incapable of performing the office for which they are destined. Indeed, it may safely be doubted whether the curious apparatus about the mouth of the stigma is not intended as a means of retaining the pollen fixed within its cell, and of preventing the possibility of communication between it and the stigma. Probably the gland-like scar on the upper edge of the stigma, which seems to be the proscolla, may be the point through which the communication is effected by absorption; especially as the stalk, to which the pollen masses are attached, rests firmly upon it at that place where its substance ceases to be membranous, and becomes cartilaginous.

Native of China, from whence it was introduced by Mr. Brookes of Newington Green. For our specimen we are indebted to Mr. Cattley, in whose stove at Barnet it produced flowers last autumn.

EXPLANATION OF THE PLATE.

1. Front view of an expanded flower. 2. A side view of the same. 3. The column, with all its appendages, as it appears immediately after the expansion of the flower. 4. The same without the anther, showing how the pollen-masses and their stalk are placed. 5. The same with the pollen-masses and their stalk removed, showing the mouth of the stigma. 6. A front view of the same. 7. A section of the column, to show the funnel-shaped stigma. 8. A section of the lip of the flower; *a*, the triangular, fleshy body. 9. The latter taken out of the spur, and seen in front. 10. A transverse section of the spur, made just above the two holes which communicate with its cells. 11. Anther. 12. The same seen from beneath, showing its two cells. 13. A side view of the pollen-masses and their stalk. 14. A front view of the same.

Vanda teretifolia

Endlicy del.

W.C. Edwards sc.

Tab. 7.

PRIMULA SINENSIS.

NAT. ORD. Primulaceæ, *Juss.* LINN. SYST. Pentandria Monogynia.

PRIMULA, *Linn.* Calyx tubulosus 5-dentatus persistens (corollâ multò brevior in *Auricula-Ursi* J.). Corolla tubulosa 5-loba, fauce perviâ. Stamina 5. Stigma 1. Capsula apice 10-valvis. *Numerus partium in hortis varius.* Juss. Gen. 96.

Primula calycibus inflatis 10-dentatis, corollis crenato-incisis. 4.
Primula sinensis. *Sabine MSS.*

DESCR. *Folia* radicalia, humi recurva, pilis longis villosa, longè petiolata, rugosa, 5—7-loba, *lobis* rotundatis, crenato-incisis, subtus ad venas, ut et petioli, coloratis. *Flores* scapo foliis subæquali hirsuto insidentes, umbellati, *involucro* foliaceo, appresso, polyphyllo. *Pedicelli* villis longissimis tecti. *Calyx* ovatus, inflatus, hirsutissimus, basi obtusus, 10-dentatus, 10-nervis, intus glandulosus, tubo corollæ paulo brevior; pallidè viridis, nervis et pedicello coloratis. *Corolla* hypocrateriformis, *limbo* plano 5-lobo: *lobis* crenato-incisis, suprà intensè carmosinis, infrà opacis, albido rubellis; *fauce* luteâ, glandulosâ, *fornicibus* 10 abbreviatis clausâ; *tubo* infundibulari extus hirsuto, transversè plicato, diaphano, calyce multoties minore. *Antheræ* 5, intrà faucem insertæ, subsessiles, angustæ, ovatæ, lobis corollæ oppositæ, super stigmate conniventes. *Pollen* ovale. *Ovarium* minimum, obovatum, uniloculare, placentâ centrali, globosâ, polyspermâ. *Stylus* cum ovario continuus, filiformis. *Stigma* capitatum, concaviusculum. *Fructus* ignotus.

One of the many objects which occupy the attention of the Horticultural Society is the introduction of ornamental plants to the gardens of this country, and the free distribution of them when procured; a purpose which the rare union of wealth, interest and liberality, which it possesses, cannot fail to ensure its attaining most successfully. The knowledge of what plants of this description particular regions produce, was obviously one step towards obtaining them. But as it is difficult to form a very correct idea of their beauty from the appearance they assume when dried, in which state only a great proportion of tropical vegetables is known to residents in Europe, it was determined by the Society that a person should be employed in making drawings of plants in the countries where they grow. For several reasons China was selected for a beginning; and particularly as being the residence of John Reeves, Esq. a corresponding and very active member of the Society, under whose immediate superintendence the draughtsman could be placed. By the direction of this gentleman, a considerable number of drawings have already been sent to England, and many of the plants they represent introduced. Among those which were received in the year 1819, was a drawing of what appeared to be a very handsome gigantic species of *Primula*, accompanied by dried specimens which confirmed the general accuracy of the figure. The attention of the Society was so strongly attracted by its beauty, that it was immediately ordered to be sent home. Seeds and a plant were accordingly procured at Canton by Mr. Reeves; but the latter unfortunately perished during its passage, and the seeds, of which there was an abundance, did not vegetate. Captain Reeves has, however, been subsequently more fortunate; having succeeded in bringing a plant over alive, which he presented to his relation Thomas Palmer, Esq. of Bromley, Kent. Last autumn this plant produced an imperfect flowering stem; and this spring has broken forth in great beauty. The inflorescence, however, has not yet attained its full size; for in China the umbel of flowers is compound, instead of simple, and as much more beautiful as it is larger. A superb drawing has been made from the plant for the Horticultural Society, by Mr. Hooker; of which the Council has most liberally allowed us to avail ourselves, with the approbation of Mr. Palmer. We should not omit to state, that the leaves represented in our plate were sketched last autumn; and the flowers added this spring. Mr. Hooker informs us, that at present the leaves are not half so large as they were at that time.

We have already observed that the Chinese drawing appeared to represent a sort of Primrose, or something very like one. An examination of the plant in a fresh state has shown that it really possesses some of the essential characteristics of that genus; such as the flowers growing in umbels, and the 5-lobed hypocrateriform corolla, inclosing the stamens. There are, however, some other points in which it differs so widely from *Primula*, that it may fairly be doubted whether it should not constitute a distinct genus. It has an inflated calyx with ten teeth, instead of a calyx with five teeth, and not inflated; and the lobes of the corolla are lacerated, somewhat like those of *Soldanella*, instead of being entire. The distinctive marks of genera in the natural order of *Primulaceæ*, to which it belongs, are so simple, that these points of resemblance will scarcely justify our retaining it in the genus where we have placed it. Others, however, may be of a different opinion: we have, therefore, satisfied ourselves with indicating how it differs from *Primula*, and willingly leave the question to be decided at some future opportunity.

It is a curious fact, that in *Coris*, the only other instance in the order of a genus in which an inflated calyx occurs, that organ should have ten divisions also; which, however differently modified, are absolutely analogous to the ten teeth in this plant; each division being accompanied by a corresponding nerve.

EXPLANATION OF THE PLATE.

1. A flower laid open partially. 2. A portion of the tube of the corolla expanded, exhibiting the fornices and anthers. 3. A part of the same less magnified, showing the natural position of the anthers. 4. The anthers. 5. Pollen. 6. An entire calyx. 7. A section of the same, showing the ovarium. 8. Ovarium taken out. 9. A section of part of the same, to show the manner in which the ovula are attached to the placenta. 10. Upper part of the style and stigma.

Primula Sinensis

W. Hubert pinx.
Natali sc.

Tab. 8.

GUSMANNIA TRICOLOR.

NAT. ORD. Bromeliæ, *Juss.* LINN. SYST. Hexandria Monogynia.

GUSMANNIA, *R. et P.* Cal. inferus 3-partitus; laciniis convolutis. Petala 3, in tubum convoluta. Antheræ in cylindrum coalitæ. Capsula 3-locularis, 3-valvis. Sem. numerosa, oblonga, nuda. *Pers. Syn.* 1. 344.

Gusmannia tricolor. *Ruiz et Pav. Fl. Per.* 3. 38. t. 261. *Pers. Syn.* l. c. *Loddiges Bot. Cabinet.*
Pourretia sympaganthera. *R. et P. Syst.* p. 82.

DESCR. Herba glaberrima, viridi-lutea, 2-pedalis, è radice sobolifera. *Folia* radicalia, ensiformia, cartilaginea, plana, integerrima, basi latiora. *Caulis* terminalis, foliis paulo longior. *Spica* elongata, imbricata, cylindracea. *Bracteæ* magnæ, ovatæ, acuminatæ, pallidè virides, 9-striatæ, superiores vacuæ, coccineæ. *Flores* albi, solitarii, ephemeri, vix aperientes, bracteis paulò breviores. *Perianthium* duplex, inferum, *exterius* 3-phyllum, fuscum, *foliolis* ovatis, cartilagineis, circa tubum *interioris* convolutis; *interius* 3-phyllum, foliolis oblongis membranaceis diaphanis, in tubum cohærentibus, exteriore longioribus, *limbo* ovali, clauso, ad collum constricto. *Stamina* 6, hypogyna, filamentis tenuibus, loratis, sursùm dilatatis, tubi longitudine. *Antheræ* anticæ, incumbentes, in cylindrum cohærentes, lineares, apiculatæ, 2-loculares, loculis parallelis discretis, margine lurido-purpureis. *Pollen* copiosum, sphæricum, pallide luteum, hic illic papillosum. *Ovarium* superum, ovatum, 3-loculare; loculis polyspermis. *Ovula* minuta, placentæ axili dilatatæ affixa. *Stylus* filiformis, contortus. *Stigmata* 3 falcata, intus fimbriata.

In our TAB. 1, we have figured and described a very remarkable plant of the natural order of *Bromeliæ,* for which we were obliged to Mr. Lambert. We are now happy to have an opportunity of publishing a still rarer plant of the same splendid tribe, which flowered in the hothouse with Messrs. Loddiges a few months ago, to whom we are obliged for permission to figure it. It is a native of the mountains of Peru, where it was found growing upon trees by Ruiz and Pavon. We have not yet seen it in any other collection than that of Messrs. Loddiges.

The genus has been named by the authors of the *Flora Peruviana,* as they inform us, after Signor Anastatio Gusman, an industrious apothecary, and zealous collector of the plants and other natural productions of South America. It was originally published by them with the inharmonious name of *Pourretia sympaganthera;* but, in the *Flora Peruviana* itself, has been placed as a distinct genus under the name we have adopted. The curious manner in which its anthers cohere, affords an obvious distinction between it and the other genera of the order. But the whole structure of the flower is highly deserving of attention. On account not only of the thick substance of the limb of the inner divisions of the perianth, and their membranous delicate tube, but of the extreme thinness of the filaments, which are wholly incapable of supporting the anthers, nature has given a hard cartilaginous texture to the outer segments, which enables them, by their contraction, to bear up those parts which require support, and which, without this provision, would be incapable of performing their necessary functions. Between the outer and inner series of the flower, a considerable quantity of honey is secreted.

While we are upon this subject, we cannot avoid recommending most strongly to the attention of those who are accustomed to import tropical plants, and especially to such as are more particularly in correspondence with persons in the West Indies, the numerous splendid species of Bromeliaceous plants which abound in those regions, and which are scarcely known in Europe more than by name. Not to mention their beauty, the facility with which they may be transported from place to place, and the readiness with which they adapt themselves to our mode of culture, render them peculiarly desirable.

The genera *Bromelia* and *Tillandsia* alone contain many species which might be procured without difficulty, and which would not suffer by comparison with the finest plants we at present possess.

EXPLANATION OF THE PLATE.

1. An entire flower. 2. The same deprived of its outer laciniæ. 3. The stamens, after all the perianth is stripped off. 4. The six anthers laid open, and seen from within at the time of bursting. 5. A single anther in a young state, with part of its filament. 6. The pollen. 7. The entire ovarium, with the style and stigmas. 8. The three stigmas much magnified. 9. A transverse section of the ovarium, showing its three cells, and mode of placentation.

J Lindley.

Guzmania tricolor

Tab. 9.

SECURINEGA NITIDA.

Nat. Ord. Euphorbiaceæ, *Juss.* Linn. Syst. Monœcia Pentandria.

SECURINEGA, *Juss.* Monoica. *Masc.* Cal. 5-partitus. Stamina 5, filamentis brevibus, basi quasi monadelphis, extùs coronâ croceâ cinctis. *Fœm. Arbor procera ; folia alterna integerrima ; flores glomerati axillares.* Juss. Gen. 388.

S. nitida. *Willd. Sp. Pl.* 4. 761. *Ait. Kew. ed. alt.* 5. 383. *Smith in Rees Cycl. in l.*

Descr. *Rami* læves, brunnei, rimis brevibus longitudinaliter sulcati ; juniores virides glandulosi. *Folia* alterna, petiolata, oblongo-lanceolata, glaberrima ; adulta coriacea. *Stipulæ* breves rotundatæ. *Flores* monoici, axillares, subsolitarii, masculi cum fœmineis mixti, cernui, pedicellati. *Calyx* 5-partitus, inæqualis, laciniis pallidis, subflavescentibus, venosis, rotundatis, 2 exterioribus paulo minoribus. ♀ Discus magnus, crassus, siccus, hinc semper stamine sterili prædítus, evehens *ovarium* ovatum, pallidum, 3-loculare, *ovulis* binis appensis. *Stylus* 1. *Stigmata* 3, paulo divaricata, 2-fida, canaliculata. ♂ *Stamina* 5 in disco magno, pentagono, madido inserta. *Filamenta* subulata, calyce breviora. *Antheræ* parvæ, posticæ, incumbentes, subrotundæ, 2-loculares, *loculis* transversè dehiscentibus. *Pollen* obtusè trigonum. *Fructus* ———.

This exceedingly rare plant was first described by M. de Jussieu, in his *Genera Plantarum*, from specimens gathered in the Isle of France by Commerson. His materials, however, do not appear to have been very perfect, as he was unable to determine whether the plant was Monœcious or Diœcious ; and what the structure of the female flower was. The shrub having scarcely been seen by any other botanist, its history is at this time very nearly in the same state as it was when the genus was first founded.

Willdenow and Persoon have both erroneously referred it to *Diœcia*, we know not upon what authority ; for it certainly bears male and female flowers upon the same plant. M. de Jussieu has considered it allied in natural affinity to *Buxus*, next which he has placed it ; an idea, which the structure of the female flowers, with which, as we have already observed, he was unacquainted, does not seem to confirm.

Its name was derived from the excessive hardness of its wood, which is so compact as to resist the blows of the axe, and is called *Bois dur* by the colonists at the Isle of France. It is also a native of Otaheite, whence it was introduced to this country, in the year 1793, by Rear-Admiral Bligh.

To the same natural order with this plant belong the common Spurge of our hedges, the *Ricinus*, from the seeds of which castor-oil is expressed ; and the *Caoutchouc* of Cayenne, which produces that invaluable substance so well known in Europe under the name of gum elastic, and among us of Indian rubber. The *Stillingia*, from which is obtained a sort of tallow, applied to domestic purposes by the Chinese ; and the dangerous Manchineel tree are also nearly allied to it.

Explanation of the Plate.

1. Male flower viewed from beneath. 2. The same seen from above, showing the manner in which the stamens are inserted into the centre of the great disk. 3. An anther seen from behind, showing the insertion of the filament. 4. The same viewed in front, and bursting. 5. Grains of pollen. 6. Female flower observed from above, exhibiting the ovary in the centre of the disk, and the single abortive stamen which always accompanies it. 7. Ovarium without the calyx, which is cut off. 8. A transverse section of the same. 9. One of the divisions of the style, with the bifid stigma at its end.

Securinega nitida?

J. Lindley

Tab. 10.

ŒNOTHERA DENTATA.

NAT. ORD. Onagræ, *Juss.* LINN. SYST. Octandria Monogynia.

ŒNOTHERA, *Linn. Juss.* Cal. longus cylindricus apice deciduus cum limbo 4-partito. Pet. 4. Stam. 8. Antheræ oblongæ incumbentes. Stigma 4-fidum. Capsula longa cylindrica sub-4-gona 4-locularis 4-valvis polysperma, valvis medio septiferis, seminibus nudis numerosis angulatis receptaculo centrali affixis. *Herbæ, quædam lignosæ; folia alterna; flores solitarii axillares.* Juss. Gen. 319.

Œnothera dentata, foliis sublinearibus denticulatis, capsulis cylindraceis angustissimis curvatis. *R. et Pav. Fl. Per.* p. 81. t. 317. *Pers. Ench.* 1. 408.

Œ. dentata. *Cav. Icon.* 4. 67. t. 398.

Œ. Chamissoi. *Hort.*

DESCR. *Herba* procumbens, debilis, glabra. *Caules* teretes, ramosi, colorati. *Folia* sparsa, lineari-oblonga, denticulata, glauca, subenervia. *Flores* sessiles, axillares, lutei, sub sole matutino aperientes; ovario piloso, tetragono, incurvo, pedicelliformi stipitati. *Cal.* deciduus, 2-partitus, tubo obconico, sepalis ovatis obtusis breviore. *Pet.* 4, fauce inserta, patentia, concava, subrotunda, non plicata, æstivatione convoluta. *Stam.* 8 fauce inserta, erecta, 4 petalis opposita breviora. *Antheræ* obovatæ, incumbentes, longitudinaliter dehiscentes. *Pollen* triquetrum pilis paucis cohærens. *Ovarium* inferum, 4-loculare, polyspermum, ovulis è dentibus placentæ ascendentibus. *Stylus* filiformis staminum longitudine. *Stigma* capitatum. *Capsula* linearis, arcuata, torulosa, 4-valvis, polysperma; valvis medio septiferis, à placenta axili separantibus. *Semina* minuta, brunnea, nitida. *Rapha* simplex et chalaza conspicuæ. *Testa* fragilis. *Embryo* rectus, *radiculæ* conicæ collo coarctato, *cotyledonibus* planis carnosis.

We obtained this pretty little plant, in the autumn of last year, at Messrs. Colvills' Nursery, King's Road, Chelsea, where it had been received from Berlin under the name of *Œ. Chamissoi.* We cannot, however, find it mentioned any where by such an appellation; and we have ascertained, by comparison with original native specimens from Don Jose Pavon, preserved in the vast herbarium of Mr. Lambert, that it differs in no respect whatever from the *Œ. dentata* of the *Flora Peruviana.* The *Œnothera dentata* of Pursh is a different species, lately distinguished by Mr. Nuttall by the name of *Œ. serrulata.*

If our figure and description be compared with the character of *Œnothera* as defined by Jussieu and understood by Linnæus, they will be found to disagree with it in some particulars of importance. Instead of the 4-cleft stigma of *Œnothera,* it has the capitate stigma of *Jussiæa;* and in place of a calyx divided into four pieces, it has sepals cohering in pairs in such a manner as to have the appearance of being two only, and not four. We have nevertheless retained it in *Œnothera,* because we think that it has more characters in common with that genus than with *Jussiæa,* especially if a persistent calyx be a necessary feature of the latter genus; which we feel disposed to think is the fact. For there are such near approaches to the capitate form of stigma in *Œnothera,* especially in *Œ. purpurea,* as our intelligent friend Mr. D. Don has remarked to us, that we cannot place perfect reliance on that character alone for *Jussiæa,* unless accompanied by a permanent calyx also.

The natural order of *Onagræ,* so called by Jussieu from the name *Onagra* applied to *Œnothera* by Tournefort, is chiefly comprised of ornamental herbaceous plants, with short-lived but numerous and pretty flowers; generally closed in the day-time, and sometimes exhaling a grateful perfume towards evening. The limits of the order, strictly speaking, are defined by petals and stamens definite in number, and inserted into a superior calyx, by a capsular or baccate many-seeded fruit, and by seeds without albumen. The genera bearing a berry for their fruit, of which *Fuchsia* is an example, are nearly allied to *Myrtaceæ,* scarcely differing from that order except in having a determinate number of stamens, and in the form of their anthers. The curious manner in which the grains of the pollen are united by a cobweb-like filamentous substance, is common to most genera of the order, but not to all. The small group of genera composed of *Hippuris, Myriophyllum, Proserpinaca,* and a few others, formerly referred to *Onagræ* by Jussieu, but since distinguished as a separate order by himself under the name of *Cercodeæ,* and by Mr. Brown under that of *Halorageæ,* differ not only in their oligospermous fruit, but in the direction of their ovula, which in *Onagræ* are always either horizontal or ascending, and never pendulous as in *Halorageæ.*

Native of fields, hedges and barren places in Chili and Peru, where it was found by Ruiz and Pavon.

EXPLANATION OF THE PLATE.

1. An expanded flower, with its stalk-like ovarium. 2. The same without its petals, showing the manner in which the sepals cohere by pairs, and the insertion of stamens. 3. A section of part of the ovarium, showing the insertion of the ovula upon little projections of the placentæ; and the style and stigma. 4. A transverse section of the ovarium. 5. Anthers before bursting. 6. Anthers after bursting. 7. The pollen. 8. A capsule. 9. A portion of one of its valves. 10. Seeds, natural size. 11. The same magnified. 12. The same, showing the rapha and chalaza. 13. Embryo.

Oenothera dentata.

J. Lindley

May 1, 1821.] **No. 3,** [Price 8*s*. Plain; 12*s*. Coloured.

TO BE CONTINUED MONTHLY,

Collectanea Botanica;

OR,

FIGURES AND BOTANICAL ILLUSTRATIONS

OF

Rare and Curious Exotic Plants,

CHIEFLY CULTIVATED IN THE GARDENS OF GREAT BRITAIN.

By JOHN LINDLEY, F.L.S. & H.S.

London:

PRINTED BY R. AND A. TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL; T. AND G. UNDERWOOD, FLEET-STREET; W. WOOD, STRAND; HATCHARD AND SON, PICCADILLY; J. HARDING, ST. JAMES'S-STREET; NORNAVILLE AND FELL, BOND-STREET; J. H. BOHTE, YORK-STREET, COVENT-GARDEN; W. CLARKE, NEW BOND-STREET.

1821.

COLLECTANEA BOTANICA.

THE object of this work is to exhibit accurate figures, accompanied by ample botanical illustrations, of the rare, or curious, or otherwise interesting plants which are either now cultivated in the gardens of Great Britain, or which it may be hereafter desirable to introduce. The drawings will be prepared by the author. The plates will contain all the details of the parts of fructification which it may be possible to procure; and it is hoped that, from this circumstance, they will not only be entitled to as high a degree of importance as any illustrative of botanical subjects, in this country, can claim; but, from the ample explanations to be given of them in the text, that they will offer an easy, and at the same time pleasing, introduction to the knowledge of vegetable organization.

To avoid the imputation of forcing upon the world, delineations of vegetables which have been already correctly and completely published by others, it is intended in the present work to figure none which have before appeared in the popular productions of the day, unless for the purpose of explaining some novel fact in their history, or structure, which may render such a measure justifiable. The materials already collected for the use of the work are considerable; and from the assurance he has received of support from his numerous friends in the vicinity of London, the author confidently ventures to anticipate an uninterrupted succession of novelties.

For the convenience of those who may favour the work with communications of sufficient extent to render it desirable, the plan, first proposed by Dr. Hooker in his elegant *Musci Exotici,* will be followed, of heading each page with a running title (such as *Lambertianæ, Cattleianæ, Griffinianæ, &c.*) expressive of the collection from which the subject of it was received. Purchasers will then have an opportunity of binding up the figures of their own plants separately.

To appear in monthly numbers; ten numbers to form a volume; each number to contain five plates in folio, and at least as many corresponding pages of letter-press. Price 8*s.* plain; 12*s.* coloured.

It was originally intended that a few copies should have been prepared with plates more highly finished than those of the common sets: but Subscribers are respectfully informed, that on more mature consideration it has been deemed advisable that this part of the plan should be relinquished. No other copies will therefore be delivered than those at 8*s.* uncoloured, and 12*s.* coloured.

A list of subscribers will be published at the close of the first volume.

Tab. 11.

AMARYLLIS SOLANDRÆFLORA.

NAT. ORD. Amaryllideæ, *Br.* LINN. SYST. Hexandria Monogynia.

AMARYLLIS, *Linn.* Cor. hexapetaloidea, irregularis. Filamenta fauci tubi inserta, declinata, inæqualia proportione v. directione. *Dryander in Ait. Hort. Kew. 2. 223.*

Amaryllis 2—4-flora, perianthio infundibulari subregulari, tubo gracillimo intus nudo limbo multò longiore, stigmate obtusè 3-lobo. ♃.

DESCR. *Folia* lorata, glaucescentia, sub anthesi erecta, scapo multoties breviora, posticè recurva, margine paululùm cartilagineo. *Scapus* cylindraceus, fistulosus, glaucus, subbipedalis. *Spatha* viridis, erecta, pedunculis duplò longior. *Flores* sulphurei, immaculati, pedicellati, cernui. *Perianthium* 9-unciale, infundibulare, subregulare, laciniis latis, ovato-lanceolatis, striatis: infimâ angustiore; marginibus infrà faucem nudam cum tubo connatis. *Stamina* declinata, fauce inserta, limbo paulò breviora, ea laciniis interioribus opposita longiora. *Ovarium* trigonum, 3-loculare, polyspermum. *Ovula* plana, disticha. *Stylus* filiformis, staminibus paulò longior. *Stigma obtusè* 3-lobum.

For this fine addition to our collections of Liliaceous plants, the public is indebted to Mr. Brookes of Newington, who lately imported it, with several other rare plants, from Cayenne. Our drawing was made from a plant in the possession of W. Cattley, Esq.

Notwithstanding the great and striking difference between this plant and *Amaryllis vittata* in the flowers, there is an astonishing similarity in the leaves, by which alone the plants certainly cannot be distinguished. In addition to the extraordinary length of the perianth, which has considerable resemblance to that of *Solandra grandiflora*, there is a wide difference in the stigma, which in the present plant is obtusely 3-lobed, and in *A. vittata* deeply trifid. We understand that Mr. Brookes has other bulbs of this species, the flowers of which are streaked with crimson, by which they are much improved in beauty, and show yet more strongly the affinity of the plant to *A. vittata*, which there is every reason to believe is also a native of the same continent; from whence it has been repeatedly received by our friend Mr. Griffin under its common appearance; and from whence the splendid variety represented in our next plate has also been obtained.

A. Solandræflora undoubtedly belongs to that set of plants which has been indicated by Mr. Herbert, in some remarks on the genera of *Amaryllideæ* lately published in the Botanical Magazine, as constituting what he considers *Amaryllis* proper, all of which are confined to the western hemisphere, and which he thinks form a genus altogether different from the Cape plants previously included under the same denomination. In our next article we shall take occasion to examine the principles upon which the alterations proposed by the ingenious author have been founded, and endeavour to ascertain in what cases it may be advisable to adopt them.

EXPLANATION OF THE PLATE.

1. Tube of the corolla, with the limb cut away, exhibiting the stamens. 2. Section of the ovarium. 3. Stigma and upper end of the style. 4. Plant in flower, very much reduced in size.

Amaryllis Solandriflora

Tab. 12.

AMARYLLIS VITTATA MAJOR.

NAT. ORD. Amaryllideæ, *Br.* LINN. SYST. Hexandria Monogynia.

AMARYLLIS, *Linn.* *Vide suprà, p.* 11.

Amaryllis floribus pedicellatis, corollis cuneiformi-infundibuliformibus, petalorum exteriorum rachibus interiorum margini adnatis, scapo tereti, stigmatibus sulcatis. *Willd. Sp. Pl.* 2. 55.
β, major.

DESCR. *Amaryllide vittatâ* verâ differt floribus majoribus, laciniis undulatis, sed non crispis, intùs sanguineo vittatis, extùs vix coloratis; foliis ferè duplò latioribus margine magis cartilagineis.

The subject of this article is another of the magnificent Liliaceous plants of South America, acquired by the unwearied exertions of W. Griffin, Esq. who has succeeded in importing so many species of that his favourite family, within a few years. It was procured several years ago from Brazil, and, though assuredly only a variety of *A. vittata,* is so fine a plant, and so far superior to its prototype, that we entertain no fear of being censured for publishing it. The Cape of Good Hope has been erroneously reported to be the native country of this species; Mr. Griffin informs us that the bulbs he has received from thence under the name of *vittata,* have uniformly been of *A. revoluta.*

This and the preceding plant have naturally led us to the consideration of the principles upon which certain alterations have been made by Mr. Herbert in *Amaryllis,* and the genera allied to it; which we will first endeavour to explain, and then proceed to examine. The ardour, and we believe we may add success, with which the ingenious author cultivates a noble collection of Liliaceous plants at Spofforth in Yorkshire, entitle his remarks to great attention; and, however much we may occasionally differ from him in opinion, we do not hesitate to recommend his remarks to the attentive examination of those who wish to become acquainted with the tribe of plants now before us.

Amaryllis, as understood by Mr. Dryander and Mr. Ker, contains those Liliaceous plants which have an hexapetaloid irregular flower, and six declinate filaments inserted into the mouth of the tube, and unequal either in proportion or direction. The numerous species comprised under this definition being very different from each other in habit, Mr. Herbert has divided them into several other genera, which he calls *Coburgia, Leopoldia, Galatea* (afterwards *Nerine*), and *Lycoris.* His *Amaryllis* has flat seeds; *Coburgia* round seeds; *Leopoldia* the same seeds as *Coburgia,* and the outer segments of the flower completely united to the tube; *Nerine* radiating segments to the flower, which is divided down to the ovarium, stamens forming a cup by their dilated bases, and round or angular seeds; *Lycoris* a simple fimbriated stigma, and seeds supposed to be roundish. A difference between the stamens of *Leopoldia, Coburgia,* and *Amaryllis,* is mentioned by Mr. Herbert, which we have in vain sought to discover. *Amaryllis purpurea* is transferred to *Cyrtanthus,* and the species of *Amaryllis* with great fleshy seeds to *Crinum.*

Now there is a rule for forming genera which has been admirably prescribed by Linnæus, that "Genus dabit characterem, et non character genus;" a rule which is perpetually quoted, but too often neglected; on which nevertheless all the principles of generic discrimination absolutely depend. In fact, it is the only test by which the value of characters can be ascertained with precision. On this principle, if it can be shown that the plants combined into genera by the differences indicated above are not alike in habit, but, on the contrary, extremely dissimilar; and that others with a very similar habit are disunited, it will follow that the distinctions upon which they have been divided or combined must be considered as *modi* and not *formæ,* if we may use the expression; and consequently of importance for distinguishing species, but not genera. How far this may really be the case, we will now proceed to inquire.

In *Amaryllis* are included all the South American species with the habit of *equestris;* that is to say, with an upright spatha and divaricating flowers. So far, therefore, the genus is natural and perhaps good; but unfortunately *A. reticulata,* which has nearly all the artificial characters of *Coburgia,* exhibits precisely the same habit, and is moreover a native of the same country, notwithstanding Mr. Herbert's ingenious conjecture to the contrary. It is said however to form a genus of itself (*Leopoldia*), which would in some measure be an answer to this objection, if it really had any characters to distinguish it from *Coburgia:* this however not being the case, it destroys not only its own genus, but *Coburgia* too. Under the latter title are comprised *A. blanda* and *Belladonna,* with *Brunsvigia multiflora!* and *Josephinæ!!*; plants even more unlike each other than *Cyrtanthus obliquus* and *Amaryllis purpurea,* which are referred to one genus on equally insufficient grounds. *Nerine* we feel willing to adopt, because we think it a very natural group; *Lycoris* also is possibly separated with propriety; but we have never had an opportunity of examining any species of it alive.

We do not wish it to be understood, from any thing which may have been said, that we are averse to the division of *Amaryllis* into several genera. On the contrary, it is, probably, necessary that some further alteration should be made in it; but on very different principles from those just examined. Of these we may perhaps have an opportunity of speaking at some future time. Our limits will not allow us to enlarge upon the subject at present, further than to add that the fleshy-seeded *Amaryllides* referred to *Crinum* by Mr. H., have not been removed from the former genus with more reason than the other plants of which we have been speaking; *Crinum* being more nearly related to *Pancratium* than to *Amaryllis.*

J. Lindley. del.

Amaryllis villata major.

Tab. 13.

OXYANTHUS SPECIOSUS.

Nat. Ord. Rubiaceæ. Sect. 3. § 5. *Juss.* Linn. Syst. Pentandria Monogynia.

OXYANTHUS, *Decand.* Cal. urceolatus, acutè 5-fidus. Cor. tubulosa, gracilis, longissima, limbo acutè 5-partito. Antheræ intrà faucem sessiles, longæ, acutæ, exsertæ. Stigma 1. Fructus —— 2-locularis, polyspermus. *Frutex Africanus; pedunculi 3-chotomi, multiflori, divisuris bracteolatis.* Juss. in Mém. Mus. 6. 390.

Gardenia tubiflora. *Andr. Bot. Rep.* 183.
Oxyanthus speciosus. *Decand. Ann. Mus.* 9. 218. *Ait. Kew. ed. alt.* 1. 371. *Röm. et Schultes Sp. Pl.* 5. 228.

Descr. *Rami* teretes, fusco-virides, tomento denso vestiti. *Folia* opposita, oblongo-lanceolata, petiolata, bullata, suprà nitida glabra, infrà ad venas tomentosa, pallidiora. *Stipulæ* ovatæ, erectæ, tomentosæ. *Flores* ex axillis foliorum, racemosi, odorati. *Cal.* superus, pilosus, 2-bracteatus, cylindraceus, acutè 5-dentatus. *Corolla* alba, longissima, hypocrateriformis, *tubo* glaberrimo, apicem versus attenuato, intus villoso; *limbo* horizontali 5-partito, laciniis lanceolatis, acutis, demùm ochraceis. *Stamina* 5, in fauce sessilia, exserta. *Antheræ* lineares, acutæ, apiculatæ. *Pollen* per tria cohærens. *Ovarium* inferum, 2-loculare, polyspermum. *Stylus* filiformis, glaber, fistulosus, exsertus, apice clavatus. *Stigma* viscidum, cristatum, emarginatum, luteum. *Discus* incrassatus, medio foveatus pro basi styli.

The genus *Oxyanthus* was founded by our learned friend M. Decandolle, in a paper on the Natural Order Rubiaceæ, published in the *Annales du Museum*; and is arranged under his *Cinchonaceæ*, which are characterized by seeds with a fleshy albumen, and a fruit with two cells and many seeds. It must be confessed it is very nearly related to *Posoqueria* and *Tocoyena*; from the latter, indeed, it seems scarcely to differ sufficiently to be considered a distinct genus. It has however been retained by M. de Jussieu, chiefly on the authority of Decandolle, in his recent paper on Rubiaceæ, published in the last volume of the *Mémoires du Museum.*

It is a native of Sierra Leone, from whence it was introduced by the African Company in 1789. With us it requires the heat of a stove, and, like many shrubs related to it in botanical affinity, is highly valued on account of the very agreeable perfume of its long white flowers, which spring in great abundance out of almost every axilla. This circumstance, with the regular disposition of its leaves and branches, and the compactness of its foliage, renders it a very desirable plant.

We hardly know whether or not the plant we now figure ought to be considered a distinct species from the *Gardenia tubiflora* of the Botanist's Repository. It certainly differs from that in many particulars, especially in its much greater size. We have examined specimens brought from Sierra Leone by Smeathman, and preserved in the Banksian herbarium, which nearly resemble Andrews's figure, except in the form of the leaves; having like it small flowers with reflected segments, and smooth branches and leaves. On the contrary, the plant from which we made our drawing had every part, except the flowers and upper surface of the leaves, covered with a dense pubescence, which in drying becomes ferruginous. It flowered in Mr. Cattley's conservatory at Barnet, where it grew with extraordinary luxuriance; to which circumstance it is possible that the differences we have mentioned are to be ascribed.

Explanation of the Plate.

1. Ovarium and style when the corolla is removed. 2. Calyx. 3. Vertical section of the same. 4. Anthers. 5. Pollen. 6. Upper end of the style and stigma.

Oxyanthus Speciosus.

Tab. 14.

ASTRAPÆA WALLICHII

NAT. ORD. Malvaceæ, *Juss.* LINN. SYST. Monadelphia Polyandria.

ASTRAPÆA. Flores umbellati, involucrati. Involucrum duplex, exterius 2-phyllum, interius polyphyllum. Cal. simplex, 5-phyllus, 1-bracteatus. Pet. 5, convoluto-clausa. Stam. 25, in tubo corollifero connata, quorum 5 sterilia. Ovar. 5-loculare, oligospermum. Stylus 1. Stigmata 5.

Astrapæa Wallichii. ♄.
Pentapetes speciosa. *Wallich in Litt.*

DESCR. Arbor magna. *Rami* crassi, teretes, tomentosi. *Folia* grandia, alterna, suborbiculata, cordata, acuminata, crenato-serrata, plana, suprà pubescentia, subtùs tomentosa, marginibus sinus basilaris imbricatis; *nervi* 5 a basi radiati; *venæ* concentricæ. *Petioli* 3-unciales, teretes, pilosi; *stipulæ* magnæ, ovatæ, appressæ, subundulatæ, tomentosæ, medio crassæ, uninerves. *Flores* in capitulis axillaribus, longè pedunculatis umbellati, involucrati. *Pedunculi* hirsuti. *Involucrum* duplex, exterius 2-phyllum, interius polyphyllum, foliolis magnis, subrotundo-ovatis, acuminatis, pilosis, venosis, interioribus sensim minoribus et angustioribus. *Flores* densi, circiter centum in quovis involucro, pedicellati, coccinei. *Calyx* simplex, pentaphyllus, villosus, *bracteâ* lanceolatâ subtensus; *foliolis* linearibus, obtusis, erectis, corollâ brevioribus. *Petala* 5, oblonga, rotundata, convoluto-clausa. *Stamina* in tubo longo, cylindraceo, corollifero connata, corollæ longitudine. *Antheræ* fertiles 20, steriles 5; hæ subulatæ, illæ oblongæ, 2-loculares, apiculatæ. *Ovarium* superum, hirsutum, 5-loculare; loculi dispermi; ovula horizontalia. *Stylus* filiformis, exsertus, versus basin hirsutus. *Stigmata* 5.

Specimens of this most splendid plant in excellent preservation were sent from the East Indies by Dr. Wallich, to A. B. Lambert, Esq. under the name we have quoted above. From one of these our drawing has been taken. It appears to form a tree, like many others of the same showy family. Its heads of flowers are produced in such abundance from among the ample foliage, that we think, if *Rafflesia* be excepted, it must be one of the most superb plants in the world. *Malvaceæ* usually afford their seeds very readily, so that no difficulty need be anticipated in obtaining the plant. We hope soon to see it ornamenting our hothouses as commonly as the beautiful and once highly prized *Hibiscus Rosa Sinensis.*

We have already observed that Dr. Wallich referred the subject of this article to *Pentapetes.* In a subsequent communication he has transferred it to *Dombeya.* To us it seems to differ much more from those two genera than they do from each other, not only in general appearance, but in technical characters. Not to mention the great double involucrum of *Astrapæa,* which is at least of as much importance as the bracteæ, or outer calyx as they usually are termed, of many genera of this order, *Dombeya* and *Pentapetes* have an outer calyx of three leaves; *Astrapæa* has none, but in its room one large bractea which subtends the calyx properly so called; *Dombeya* and *Pentapetes* have an almost expanded corolla; *Astrapæa* has its petals rolled together like *Achania.* There is a difference too in the number of stamens; but this perhaps is not of so much consequence as the great length of their tube, as compared with the shallow cup of *Pentapetes* and *Dombeya.* The same observations are applicable to *Pterospermum* (the *Pentapetes* of Jussieu); but that has neither bractea, nor outer calyx; its flowers are solitary, and its whole habit very different. Whether the seeds of *Astrapæa* are winged or not we have no means of judging, except from the ovula, which exhibit no trace of any appendage. The ovarium appears to be that of a capsule of a thin, rather than of a woody texture.

EXPLANATION OF THE PLATE.

1. Flower. 2. Bractea pulled off. 3. Tube of the stamens, as seen when the petals are removed. 4. Anthers. 5. Ovarium. 6. Vertical section of the same.

J. Lindley del.

Astrapæa Wallichii?

1

2

3

4

5

6

Tab. 15.

ANGRÆCUM MACULATUM.

NAT. ORD. Orchideæ, Sect. 5. *Br. Pr.* 1. 330. LINN. SYST. Gynandria Monandria.

ANGRÆCUM. *Petit Thouars Orch. Afr. ined.* Flores resupinati. Perianth. irregulare, connivens. Laciniæ subæquales, 3 superiores galeatæ. Labellum dependens, calcaratum, 3-lobum, lobis lateralibus minoribus ascendentibus. Columna libera, aptera, elongata, glabra. Anth. terminalis, opercularis, semibilocularis, decidua. Massæ pollinis 2 integræ. Stigma concavum, transversum. *Herbæ in truncis arborum parasiticæ. Folia plana.*

Angræcum, foliis lanceolatis maculatis planis integerrimis. 2.

DESCR. *Bulbi* obscuro-virides, glaucescentes, ad collum pallidiores, squamis marcescentibus primùm vestiti. *Folia* carnosa, plana, enervia, integerrima, maculis confluentibus inquinata. *Scapus* foliorum longitudine, teres, glaber, pallidè viridis, *bracteis* paucis scariosis. *Racemus* pauciflorus, quaquaversus. *Flores* parvi, resupinati, galeati. *Laciniæ* subæquales; *exteriores* linearioblongæ, apice rotundatæ: inferioribus margine inferiore in lobo pallidiore dilatato; *interiores* paulo latiores, pallidè rosaceæ, margine imbricantes, super columnam fornicatæ. *Labellum* planum, oblongum, calcaratum, 3-partitum, lobis lateralibus intus sanguineo-venosis, erectis; intermedio emarginato; disc. 2-lamellato, sanguineo, axe et apice flavidis. *Columna* labello dimidio brevior, anticè plana, sursùm dilatata. *Anthera* terminalis decidua, 2-locularis, loculis discretis, in apice aliquantisper excavato columnæ insidens. *Massæ* pollinis 2, glandulâ nullâ. *Stigma* viscidum, transversum, excavatum. *Ovarium* pedicellatum, contortum.

For this pretty and singular plant we are obliged to Messrs. Loddiges, who sent it us in the middle of last December. We incline to believe that if the plant had flowered at a more favourable time of the year, it would have been much more handsome than it was when we made our drawing. Messrs. Loddiges inform us that they are uncertain from what quarter they received it, but they think from South America. It is not uncommon in collections about town; and is very readily distinguished by its spotted dull green leaves, and the pale neck of the bulbs, which appear to us to be constant characters.

The only trace we can find of the genus *Angræcum* of M. du Petit Thouars is in a single plate, intended as a specimen of some very extended work upon the *Orchideæ* of the islands off the south-east coast of Africa, which that most excellent botanist has announced his intention of publishing. For the opportunity of seeing the plate we are indebted to our liberal friend Mr. Lambert, who received it from the author with the unpublished part of his *Plantes des Isles australes d'Afrique.* M. Petit Thouars appears to have employed a method of dividing the genera of this order into tribes, which the work we have just mentioned will doubtless explain satisfactorily. But as at present it is impossible to ascertain what that method is, we have ourselves framed a character which will serve to distinguish *Angræcum,* as a genus, from the others of the same section as at present constituted. The greater part of Swartz's *Limodora,* when they shall have been submitted to a more rigid examination, will probably be referable to this genus; which, in fact, may rather be considered the same as *Limodorum,* certain species referred to it being excluded. Among these must be numbered the *Limodorum abortivum* of the South of Europe, which has granular pollen, and being the type of the genus must retain the name of *Limodorum.*

At first sight, it might be supposed that *Vanda* and this plant were nearly related to each other, on account of a general external similarity of appearance which they possess. We believe, however, on the contrary, that they will not eventually be placed in the same section; for we are persuaded that the parasitical *Orchideæ* with waxy pollen are capable of being separated into at least two divisions, distinguished by certain peculiar and important modifications of the pollen and its appendages.

The name *Angræcum* seems to have originated with Rumphius, who formed it from the word *Angrec,* an appellation given by the Malays to parasitical *Epidendra;* but the meaning of which we have not been able to discover. We learn from Kæmpfer that *Angurèk* is also the name applied by the Japanese to these plants.

EXPLANATION OF THE PLATE.

1. Entire flower. 2. The same seen nearly in front. 3. A side view of the same without the external laciniæ. 4. The same without the inner laciniæ. 5. Front view of the same. 6. Column, showing an anther growing on its corner, where the supposed rudiment of an anther is usually found. This anther had only one cell and one mass of pollen, otherwise it seemed perfect. 7. Back of the same. 8. Front of the column after the anther has dropped. 9. Anther from beneath. 10. The same from one side. 11. Masses of pollen.

J.Lindley del.

Angraecum maculatum.

Tab. 7.

PRIMULA SINENSIS.

NAT. ORD. Primulaceæ, *Juss.* LINN. SYST. Pentandria Monogynia.

PRIMULA, *Linn.* Calyx tubulosus 5-dentatus persistens (corollâ multò brevior in *Auricula-Ursi* J.). Corolla tubulosa 5-loba, fauce perviâ. Stamina 5. Stigma 1. Capsula apice 10-valvis. *Numerus partium in hortis varius.* Juss. Gen. 96.

Primula calycibus inflatis 10-dentatis, corollis crenato-incisis. ♃.
Primula sinensis. *Sabine MSS.*

DESCR. *Folia* radicalia, humi recurva, pilis longis villosa, longè petiolata, rugosa, 5—7-loba, *lobis* rotundatis, crenato-incisis, subtus ad venas, ut et petioli, coloratis. *Flores* scapo foliis subæquali hirsuto insidentes, umbellati, *involucro* foliaceo, appresso, polyphyllo. *Pedicelli* villis longissimis tecti. *Calyx* ovatus, inflatus, hirsutissimus, basi obtusus, 10-dentatus, 10-nervis, intus glandulosus, tubo corollæ paulo brevior; pallidè viridis, nervis et pedicello coloratis. *Corolla* hypocrateriformis, *limbo* plano 5-lobo: *lobis* crenato-incisis, suprà intensè carmosinis, infrà opacis, albido rubellis; *fauce* luteâ, glandulosâ, *fornicibus* 10 abbreviatis clausâ; *tubo* infundibulari extus hirsuto, transversè plicato, diaphano, calyce multoties minore. *Antheræ* 5, intrà faucem insertæ, subsessiles, angustæ, ovatæ, lobis corollæ oppositæ, super stigmate conniventes. *Pollen* ovale. *Ovarium* minimum, obovatum, uniloculare, placentâ centrali, globosâ, polyspermâ. *Stylus* cum ovario continuus, filiformis. *Stigma* capitatum, concaviusculum. *Fructus* ignotus.

One of the many objects which occupy the attention of the Horticultural Society is the introduction of ornamental plants to the gardens of this country, and the free distribution of them when procured; a purpose which the rare union of wealth, interest and liberality, which it possesses, cannot fail to ensure its attaining most successfully. The knowledge of what plants of this description particular regions produce, was obviously one step towards obtaining them. But as it is difficult to form a very correct idea of their beauty from the appearance they assume when dried, in which state only a great proportion of tropical vegetables is known to residents in Europe, it was determined by the Society that a person should be employed in making drawings of plants in the countries where they grow. For several reasons China was selected for a beginning; and particularly as being the residence of John Reeves, Esq. a corresponding and very active member of the Society, under whose immediate superintendence the draughtsman could be placed. By the direction of this gentleman, a considerable number of drawings have already been sent to England, and many of the plants they represent introduced. Among those which were received in the year 1819, was a drawing of what appeared to be a very handsome gigantic species of *Primula*, accompanied by dried specimens which confirmed the general accuracy of the figure. The attention of the Society was so strongly attracted by its beauty, that it was immediately ordered to be sent home. Seeds and a plant were accordingly procured at Canton by Mr. Reeves; but the latter unfortunately perished during its passage, and the seeds, of which there was an abundance, did not vegetate. Captain Rawes has, however, been subsequently more fortunate; having succeeded in bringing a plant over alive, which he presented to his relation Thomas Palmer, Esq. of Bromley, Kent. Last autumn this plant produced an imperfect flowering stem; and this spring has broken forth in great beauty. The inflorescence, however, has not yet attained its full size; for in China the umbel of flowers is compound, instead of simple, and as much more beautiful as it is larger. A superb drawing has been made from the plant for the Horticultural Society, by Mr. Hooker; of which the Council has most liberally allowed us to avail ourselves, with the approbation of Mr. Palmer. We should not omit to state, that the leaves represented in our plate were sketched last autumn; and the flowers added this spring. Mr. Hooker informs us, that at present the leaves are not half so large as they were at that time.

We have already observed that the Chinese drawing appeared to represent a sort of Primrose, or something very like one. An examination of the plant in a fresh state has shown that it really possesses some of the essential characteristics of that genus; such as the flowers growing in umbels, and the 5-lobed hypocrateriform corolla, inclosing the stamens. There are, however, some other points in which it differs so widely from *Primula*, that it may fairly be doubted whether it should not constitute a distinct genus. It has an inflated calyx with ten teeth, instead of a calyx with five teeth, and not inflated; and the lobes of the corolla are lacerated, somewhat like those of *Soldanella*, instead of being entire. The distinctive marks of genera in the natural order of *Primulaceæ*, to which it belongs, are so simple, that these points of resemblance will scarcely justify our retaining it in the genus where we have placed it. Others, however, may be of a different opinion: we have, therefore, satisfied ourselves with indicating how it differs from *Primula*, and willingly leave the question to be decided at some future opportunity.

It is a curious fact, that in *Coris*, the only other instance in the order of a genus in which an inflated calyx occurs, that organ should have ten divisions also; which, however differently modified, are absolutely analogous to the ten teeth in this plant; each division being accompanied by a corresponding nerve.

EXPLANATION OF THE PLATE.

1. A flower laid open partially. 2. A portion of the tube of the corolla expanded, exhibiting the fornices and anthers. 3. A part of the same less magnified, showing the natural position of the anthers. 4. The anthers. 5. Pollen. 6. An entire calyx. 7. A section of the same, showing the ovarium. 8. Ovarium taken out. 9. A section of part of the same, to show the manner in which the ovula are attached to the placenta. 10. Upper part of the style and stigma.

COLLECTANEA BOTANICA.

THE object of this work is to exhibit accurate figures, accompanied by ample botanical illustrations, of the rare, or curious, or otherwise interesting plants which are either now cultivated in the gardens of Great Britain, or which it may be hereafter desirable to introduce. The drawings will be prepared by the author. The plates will contain all the details of the parts of fructification which it may be possible to procure; and it is hoped that, from this circumstance, they will not only be entitled to as high a degree of importance as any illustrative of botanical subjects, in this country, can claim; but, from the ample explanations to be given of them in the text, that they will offer an easy, and at the same time pleasing, introduction to the knowledge of vegetable organization.

To avoid the imputation of forcing upon the world, delineations of vegetables which have been already correctly and completely published by others, it is intended in the present work to figure none which have before appeared in the popular productions of the day, unless for the purpose of explaining some novel fact in their history, or structure, which may render such a measure justifiable. The materials already collected for the use of the work are considerable; and from the assurance he has received of support from his numerous friends in the vicinity of London, the author confidently ventures to anticipate an uninterrupted succession of novelties.

For the convenience of those who may favour the work with communications of sufficient extent to render it desirable, the plan, first proposed by Dr. Hooker in his elegant *Musci Exotici,* will be followed, of heading each page with a running title (such as *Lambertianæ, Cattleianæ, Griffinianæ, &c.*) expressive of the collection from which the subject of it was received. Purchasers will then have an opportunity of binding up the figures of their own plants separately.

To appear in monthly numbers; ten numbers to form a volume; each number to contain five plates in folio, and at least as many corresponding pages of letter-press. Price 8*s.* plain; 12*s.* coloured.

It was originally intended that a few copies should have been prepared with plates more highly finished than those of the common sets: but Subscribers are respectfully informed, that on more mature consideration it has been deemed advisable that this part of the plan should be relinquished. No other copies will therefore be delivered than those at 8*s.* uncoloured, and 12*s.* coloured.

A list of subscribers will be published at the close of the first volume.

N°. 1 [Price 8s. Plain; 12s. Coloured.

TO BE CONTINUED MONTHLY,

Collectanea Botanica:

OR,

FIGURES AND BOTANICAL ILLUSTRATIONS

OF

Rare and Curious Exotic Plants,

CHIEFLY CULTIVATED IN THE GARDENS OF GREAT BRITAIN.

By JOHN LINDLEY, F.L.S. & H.S.

London:

PRINTED BY R. AND A. TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL; T. AND G. UNDERWOOD, FLEET-STREET; W. WOOD, STRAND; HATCHARD AND SON, PICCADILLY; J. HARDING, ST. JAMES'S-STREET; NORNAVILLE AND FELL, BOND-STREET; J. H. BOHTE, YORK-STREET, COVENT-GARDEN; W. CLARKE, NEW BOND-STREET.

1821.

Psidium Cattleianum.

J. Lindley del.

Tab. 16.

PSIDIUM CATTLEIANUM.

Nat. Ord. Myrtaceæ, *Juss.* Linn. Syst. Icosandria Monogynia.

PSIDIUM, *Linn., Juss.* Guaiava, *Gærtn.* Cal. 5-partitus. Pet. 5. Stamina per totam tubi calycis parietem inordinatim inserta. Ovarium 3-loculare ; loculis placentâ septiformi ad marginem fissâ, utrinque reflexâ, bipartitis. Ovula plurima, horizontalia, margini placentæ inserta. Stigma capitatum. Bacca calyce coronata, polysperma. Testa ossea. Embryo hippocrepicus : cotyledonibus quam radicula multoties brevioribus. *Arbores* (*utriusque Indiæ, præsertim intra Tropicos*). *Flores axillares. Fructus magni, edules.*

Psidium, ramis teretibus, foliis obovatis petiolatis coriaceis glaberrimis, floribus solitariis.
Psidium Cattleianum. *Sabine, in Act. Soc. Hort.* 4. 315. *t.* 11.

Descr. Arbuscula foliosa, ramosa, compacta. *Rami* teretes. *Folia* opposita, petiolata, obovata, coriacea, glaberrima, atroviridia ; juniora venosa ; adulta subavenia. *Calyx* æstivatione 5-dentatus, crassus, pyriformis ; expansus in lacinias quinque lacerus ; inter lacinias *petala* 5, citò decidua, vix unguiculata, gerens ; et per superficiem integram usque ad ovarii verticem staminifer. *Stamina* æstivatione inflexa. *Antheræ* oblongæ, incumbentes, utrinque emarginatæ, loculis discretis. *Ovarium* 3-loculare ; loculis placentâ, dissepimenti instar, ad marginem 2-furcâ, utrinque reflexâ, bipartitis. *Ovula* indefinita, disticha, ob placentam reflexam versus axin versa. *Stylus* filiformis. *Stigma* capitatum. *Bacca* subrotunda, Pyri minoris magnitudine, atropurpurea, cortice tenui undique foveolis impressâ, sepalis 5 conniventibus coronata ; intùs carne tenero, pallido, pulposo, acidodulci repleta, placentæ vestigiis venis firmioribus ostensis. *Semina* 25—30, nidulantia, pallidè luteo-brunnea, oblonga, pulpâ seu arillo tenero è funiculo orto obvoluta. *Hilum* infrà extremitatem angustiorem, per substantiam testæ canaliculatum, funiculum elongatum arillo (?) adhærentem promens. *Embryotega* pars testæ cuneoliformis inter hilum et extremitatem proximam, à testâ e radiculæ regione facilè separabilis. *Testa* ossea, fragilis. *Membrana* interior alba, pellucida, tenuissima. *Chalaza* fungosa, brunnea, in extremitate embryonis hilo proximâ. *Embryo* teres, hippocrepicus, in substantiâ testæ ; *Radicula* ferè totum corpus embryonis formans, extremitate inferiore embryotegæ appressâ ; *Cotyledones* duæ, minimæ, hilo proximæ, paulo contortæ, exteriore minore.

The only account which has hitherto been published of this fine shrub is in the Transactions of the Horticultural Society, where Mr. Cattley has given a complete history of its introduction, and of the mode of its cultivation. A beautiful figure of the plant in a fruit-bearing state accompanies the memoir, which Mr. Sabine completed by naming the subject of it in honour of the gentleman by whom the plant was first brought into notice.

As a species it stands very distinct, having little more than generic affinity with any of the recorded species of *Guava*. The excellent flavour of its fruit, which is very like that of strawberries and milk, is far superior to either *P. pyriferum, pomiferum,* or *polycarpon*. There is a plant in the nurseries called *Psidium Chinense,* which is more like this than any thing else ; but that has never produced flowers here ; in which particular alone, not to mention others, it decidedly differs from this, which is seldom out of flower.

The generic character of *Psidium* given by authors, if it be sufficient to distinguish it from *Eugenia* and *Myrtus,* is so defective that we have formed another, in which we have endeavoured to include all that is absolutely necessary to constitute a *Psidium*. The principal features by which it is characterized, are its stamens inserted over all the inner surface of the calyx, its capitate stigma, peculiar mode of placentation, true berry containing many seeds with an osseous covering, and an embryo curved like a horse-shoe, with very minute cotyledons. There is also a curious contrivance in its testa, by which the emission of the radicle, otherwise likely to be retarded, if not prevented, by the very hard nature of its covering, is greatly facilitated. Immediately over against the lower extremity of the embryo, a circular portion of the testa, with a diameter equal to that of the radicle, acquires such a tendency to separate from the rest, that the first effort of incipient germination suffices to loosen it, and finally to push it out ; just as the action of some power in the inside of a phial pushes out its stopper. This very remarkable economy, for a dicotyledonous plant, has been entirely overlooked by Gærtner in his figure and account of *Guaiava*. He may therefore have missed it in *Nelitris* also, where it may be expected to exist.

The genus *Nelitris,* of which we have been allowed to examine specimens by favour of A. B. Lambert, Esq., not-

withstanding its evident affinity to *Psidium,* differs from it entirely in the structure of the ovarium, which in the original species has eight cells, each cell containing one reniform ovulum attached to the axis by its middle. We would therefore amend its character thus :—

NELITRIS, *Gærtn.*

(*Decaspermum* Forst. *Psidii Sp.* Linn. Fil.)

Cal. 4-dentatus. Pet. 4. Stamina receptaculo lineari inserta. Ovarium 4-10-loculare; ovulis axi à medio margine affixis. Stigma capitatum. Bacca calyce coronata, oligo- v. poly-sperma. Testa ossea. Embryo rectiusculus; cotyledonibus radiculâ multoties brevioribus. *Frutices* (*Insularum Maris Pacifici*). *Folia nitida, avenia. Flores axillares solitarii, v. terminales paniculati. Fructus parvi.*

1. Nelitris Jambosella, *Gærtn.*; foliis ovatis acutis, floribus axillaribus subsolitariis, ovariis 8-10-locularibus.
   Hab. In Ins. Societatis, *Forst.* (*v. s. sp. herb. Lambert.*)
2. Nelitris paniculata *nob.*; foliis oblongis acuminatis, floribus terminalibus axillaribusque paniculatis, ovariis 4-locularibus.
   Eugenia polygama. *Roxb. MSS.*
   HAB. In Moluccis, *Roxb.* (*v. s. sp. herb. Lambert.*)

There is another genus bordering close upon *Psidium,* and which it has even been proposed to unite with it. We mean *Campomanesia* of Ruiz and Pavon. For the opportunity of inspecting the unpublished figure of this exceedingly rare plant, destined for a future volume of the *Flora Peruviana,* we are as usual indebted to our very liberal friend Mr. Lambert, who has also most kindly permitted us to examine a portion of its fruit, which he has the rare fortune to possess. The result of our investigation has proved highly satisfactory. The genus proves to possess very decided marks of difference from *Psidium,* both in the insertion of stamens, and in the seed, which has a granular testa the vessels of which are replete with resin, and an embryo with cotyledons as long as the radicle and coiled up. It also presents the very unusual circumstance of an embryo of a bright purple colour. The character of the genus will therefore be

CAMPOMANESIA, *R. & P.*

(*Psidii Sp.* Pers.)

Cal. 5-partitus, deciduus. Pet. 5. Stamina receptaculo lineari inserta. Ovarium ———. Stigma capitatum. Bacca polysperma, non calyce coronata. Testa granulosa, resinifera. Embryo in se arcuatus, cotyledonibus radiculæ longitudine. *Arbor* (*Peruviæ*). *Folia lanceolata, integra. Flores axillares. Fructus magni, edules. Embryo coloratus.*

Campomanesia lineatifolia. *Fl. Peruv.*

EXPLANATION OF THE PLATE.

1. Flower-bud. 2. The same cut open. 3. An expanded flower divided vertically. 4. The ovarium cut across. 5. A transverse section of the placenta. 6. Anthers. 7. Pollen. 8. Fruit. 9. A transverse section of the same, showing the seeds imbedded in pulp. 10. A seed. 11. A vertical section of the same. 12. A transverse section of the same. 13. The radicular end of the embryo, showing the chalaza. 14. The other end of the embryo, showing the cotyledons. 15. The cotyledons forced up from their natural position.

Tab. 17.

CHLORANTHUS MONOSTACHYS.

Nat. Ord. Chloranthæ, *Br.* Linn. Syst. IV Uncertain.

CHLORANTHUS, *Sw.* Anthera lateri ovarii insidens (indivisa, 2-locularis ; v. 3-loba, 4-locularis). Ovarium monospermum ; ovulo pendulo. Stigma capitatum. Drupa. *Brown in Bot. Mag.* 2190.

Chloranthus *monostachys* ; antheris incurvis 3-lobis indivisisve, spicis solitariis, floribus alternis. *Br. l. c.*

Descr. Herba succosa, pedalis, glaberrima. *Caules* simplices, demùm ramosi, plures ex unâ radice, rotundato-tetragoni, sæpiùs deformes. *Folia* opposita, stipulata, petiolata, nitidissima, ovato-oblonga, acuta, serrata, serraturis apiculatis, primùm concava, rugosa, demùm plana, convexa, suprà lætè viridia, infrà pallidiora, reticulatim venosa. *Petioli* sulcati. *Stipulæ* connectivæ, obsoletæ. *Spica* terminalis, pauciflora, solitaria, pedunculata. *Flores* in dentibus decussatis racheos, oppositi, *bracteâ* margine sphacelatâ ipsis multò breviore extùs suffulti. *Perianthium* 0. *Stamina* extrorsa, unilateralia. *Filamenta* in unâ massâ crassâ, carnosâ, infra antheras marginatâ, extùs longitudinaliter 2-sulcâ, ovarii lateri partim adnatâ connata. *Antheræ* 3, albæ, ovatæ, innatæ, versus rachim super stigmate incurvæ, basi connatæ : *connectivo* maximo, carnoso, rugoso ; *loculis* introrsis, simplicibus, 2-valvibus, linearibus longitudinaliter dehiscentibus, iis antherarum lateralium integrarum solitariis, intermediæ apice bifidæ geminis ; an ideò anthera media ex duabus conflata ? sed tres tantum duobus sulcis filamenti indicantur. *Ovarium* rachi proximum, uniloculare : *ovulo* unico à pariete rachi proximâ appenso ; *stigma* sessile integrum concavum. *Pericarpium* clausum, carnosum, turbinatum, deciduum, extùs cicatrice filamenti notatum. *Semen* subrotundum pendulum ; *testâ* osseâ. *Nucleus* semini conformis, membranâ propriâ vestitus, et chalazâ hilo proximâ insignitus. *Albumen* maximum carnosum. *Embryo* minimus, inversus, ab umbilico remotus, *radiculâ* brevissimâ centrifugâ, *cotyledonibus* divaricatis, albumini arctissimè adhærens, et difficillimè extricandus.

We have given a figure of this singular plant, with a view of illustrating the truly excellent remarks of Mr. Brown on the genus in the Botanical Magazine ; where the true nature of the parts of fructification was first explained by him, and a correct character of the genus established. Every other botanist who has happened to examine the plant, has fallen into the most extraordinary errors respecting its structure. L'Heritier called the filament a calyx, and the anthers a 3-lobed petal. Willdenow follows him in considering the anthers a petal, but rejects the idea of the existence of a calyx. Loureiro took the petal of L'Heritier for a calyx, and describes the plant as destitute of corolla. Thunberg attributes to his *Nigrina,* which is supposed to be this genus, a corolla of four petals and four very short filaments ; which we confess is to us unintelligible. All, however, with the exception of the latter author, have agreed in considering the cells of the anther to be the anther itself.

M. de Jussieu, who in his *Genera Plantarum* appears to have taken his ideas of *Chloranthus* entirely from L'Heritier, could scarcely guess at its affinity, unless to *Rubiaceæ* or *Viscum.* The latter was afterwards united with *Chloranthus* and some other genera into an order, called *Viscoideæ,* by M. Richard ; which plan has been subsequently pursued by Jussieu in a paper published in the *Annales du Muséum,* where *Chloranthus* is placed in his *Lorantheæ.* But as these opinions originated entirely in a misconception of the nature of the parts of the flower, they necessarily were abandoned as soon as its true structure was ascertained. Mr. Brown, with that intuitive sagacity for which he is so deservedly celebrated, has shown the necessity of establishing for this genus a new natural order, whichhe calls *Chloranthæ,* and places near *Piperaceæ* and *Urticeæ* ; indicating at the same time the propriety of increasing it by the addition of *Ascarina* of Forster, and *Tafalla* of Ruiz and Pavon, which is Swartz's *Hedyosmum.* He adds, that it agrees with both the orders just mentioned " in having the radicle of the embryo in a direction opposite to the umbilicus, and a one-seeded ovarium ; but differs especially in its pendulous ovulum and habit."

There seems to be much more uncertainty about its place in the Linnean system. Dr. Sims, at the suggestion of Mr. Brown, has referred it to *Monandria.* But of the four known species, one only can by any means be considered monandrous, and it may be doubted whether even that is really so. In the plant before us, the middle anther seems to us to be made up of two confluent anthers, the original separation of which is indicated by the fissure of their apex ; and consequently we do not think the lateral ones imperfect, but only incompletely united with the middle anther. This species may therefore be considered tetrandrous, as may *inconspicuus* also ; and according to this hypothesis, Mr. Brown's *C. monander,* which we suppose to be the same as a plant we saw in flower at Kew some months since, has its single stamen made up of two confluent ones ; which is in some measure confirmed by the presence of a furrow running all down the axis of the filament in the inside. It appears therefore, that whatever opinion be held, the station of the genus in the system of Linnæus is equally doubtful ; for the union of filaments would make it necessary to place it in *Monadelphia,* the cohesion of anthers would refer it to *Syngenesia,* or its absolutely monandrous structure to *Monandria.*

Native of China, and introduced by the Horticultural Society, from whose garden we procured our specimen soon after the plant arrived. At that time the stems were simple ; they afterwards became branched, in which state it is figured in the Botanical Magazine.

Explanation of the Plate.

1. Flower seen in front. 2. The same viewed laterally. 3. The same from within. 4. The middle anther. 5. The two lateral anthers divided from the middle one. 6. Pollen. 7. A side view of the flower without the anthers. 8. A vertical section of the same. 9. Top of the ovarium and stigma. 10. Fruit. 11. A vertical section of the same. 12. Nucleus.

Chloranthus monostachys

J. Lindley del.

Tab. 18.

METROSIDEROS VERA.

NAT. ORD. Myrtaceæ, *Juss.* LINN. SYST. Icosandria Monogynia.

METROSIDEROS, *Sm.* Cal. 5-fidus, superus. Pet. 5. Stam. longissima, exserta. Stigma simplex. Caps. 3-4-locularis. *Ait. Hort. Kew. ed. alt. 3.* 183.

METROSIDEROS, foliis ovato-lanceolatis acuminatis glaberrimis, cymis pedunculatis multifloris.
Nani. *Valentyn Oost. Ind. p.* 220. *t.* 53. fide Rumph.
Metrosideros vera. *Rumph. Herb. Amb.* 3. 16. *t.* 7.

DESCR. Arbor excelsa (*Rumph.*). *Rami* teretes; juniores politi, lætè virides; adulti rugosi, rimosi, brunnei. *Folia* opposita, decussata, petiolata, ovato-lanceolata, acuminata, glaberrima; novissima ferruginea, juniora majora, tenuia, pallidè viridia; adulta coriacea, venosa, atro-viridia; nervo medio pallido. *Petioli* semiteretes. *Cymi* axillares, oppositi, pedunculati, multiflori, bracteati. *Flores* virides, glaberrimi. *Calyx* semi-inferus, depressus, campanulatus, 5-dentatus; dentibus distantibus, acutis, transversis. *Pet.* 5, rhombeo-ovata, breviter unguiculata, planiuscula, patentia. *Stamina* 30, serie simplici, disco magno, carnoso, 5-angulari, prominente externè inserta, 5 cuique denti calycinæ unumque cuique petalo opposita; ea dentis axi opposita breviora; et indè alternatim minora; *filamenta* rigida, stylo paulo breviora, petalis duplò longiora; *antheræ* ovales, apiculatæ, incumbentes. *Ovarium* subrotundum, semisuperum, 2-loculare, polyspermum: *ovula* in placentâ magnâ, globosâ, centrali per totam superficiem inserta; *Stylus* filiformis, incurvus, basi cum ovario articulatus. *Stigma* parvum, obscurè bilobum. *Capsula*, fide Rumphii.

This tree, which is known in the gardens by the improper name of *Eugenia Amboinensis*, seems to be what produces the iron wood of the East Indies. In the islands of the Indian Archipelago it is called *Nani*, and is described under that name by Francis Valentyn in his account of the island of Amboyna. Rumphius, whom we believe to be the only author that has given a detailed account of the plant, says that it grows to a considerable size, forming a large timber tree in the rocky parts of Amboyna and Java; he adds that the wood from the heart of the tree is so excessively hard, that it is impossible to work it except in a green state. The Chinese make their rudders and anchors of it, which are esteemed by them superior to the iron ones of the Europeans. The worm is said not to eat into it, as it does into other woods with a similarly close grain. Although harder than ebony, it does not take so fine a polish. Among the Japanese it is so scarce and valuable, that it is only allowed to be manufactured in the service of their king. The bark, which separates spontaneously from the tree, is used by the natives as a remedy for fluor albus and diarrhœa, being mixed with Pinang, and a small quantity of ginger, cloves and nutmegs.

Our figure was taken two years since from a fine specimen in the conservatory of William Cattley, Esq.

EXPLANATION OF THE PLATE.

1. Expanded flower without the stamens. 2. Section of a flower without the petals. 3. Section of the ovarium. 4. Stamens. 5. Top of the style and stigma.

M. Hart del.

Melrosideros vera

MYRTUS DISTICHA.

NAT. ORD. Myrtaceæ, *Juss.* LINN. SYST. Icosandria Monogynia.

MYRTUS, *Linn., Juss.* Cal. 4-5-partitus. Pet. 4-5. Stamina debilia, receptaculo angusto inserta. Ovarium 2-3-loculare polyspermum: ovulis placentæ centrali insertis. Stigma simplex. Pericarpium baccatum, polyspermum. Testa tenuis. Embryo arcuatus, teres, cotyledonibus radiculâ duplò brevioribus.
Sect. 2? OLYNTHIA. Stylus apice uncinatus. Semina angulata. Embryonis partes invicem conferruminatæ.

MYRTUS, pedunculis axillaribus multifloris foliis brevioribus, foliis distichis deflexis ovato-lanceolatis, ramis patentibus. *Swartz Fl. Ind. Occ.* 2. 894.
Myrtus disticha. *Swartz Prodr.* 78. *Willd. Sp. Pl.* 6. 971. *Ait. Hort. Kew. ed. alt.* 3. 190. *Sims, in Bot. Mag.* 867.
Myrtus horizontalis. *Vent. Malm.* 60.

DESCR. Suffrutex. *Rami* teretes, glabri, angulum ferè rectum invicem efformantes, juniores leviter sericei. *Folia* opposita, reflexa, subsessilia, oblongo-lanceolata, 3-nervia, venis transversis, inconspicuis subundulata; juniora colorata. *Pedunculi* axillares, multiflori. *Calyx* superus, 4-fidus, pilosus, resinoso-glandulosus, laciniis rotundatis ciliatis. *Petala* 4, subrotunda, sessilia, nunquam v. rarissimè expandentia, sed ferè semper magìs minùsve conniventia et cohærentia; in tenerrimis annis adeò arctè cohærentia ut non separanda. *Stamina* serie duplici inserta, indefinita. *Antheræ* ovatæ incumbentes. *Ovarium* 2-loculare, polyspermum; ovulis placentæ centrali insertis. *Stylus* rectus teres apice uncinatus. *Stigma* simplex. *Pericarpium* baccatum obovatum v. oblongum, atrum, purpureo-brunneum, calyce coronatum, uniloculare. *Semina* placentæ axili adhærentia, 2-8, mutuâ pressione angulata, à carne libera. *Testa* tenera, carnosa, cinerea. *Embryo* exalbuminosus, carnosus, semini conformis, partibus omnibus invicem conferruminatis, vasculis resiniferis marginalibus perforatus.

It must be obvious to every one who has ever attended to the subject, that it is almost impossible to distinguish *Myrtus* and *Eugenia* from each other by the characters hitherto attributed to them; even when the fruit, on which their differences are chiefly said to depend, is within reach for examination. We conceive, however, that the difficulty of which we have spoken, does not arise out of any want of characters in nature to distinguish these plants, which probably have as strict, if not stricter limits than those of most Natural Orders; but rather from a laxness and incompleteness in the definitions of authors, who have introduced confusion among them by carelessly referring plants with all the characters of one genus to another; and from each group having been crowded with species which differ as much from the genera in which they have been placed, as those genera do from each other.

Their difference has hitherto depended entirely upon the fruit, as in fact it always must. We believe, however, it will be discovered that it is neither the pericarpium, nor the number of its cells, nor the number of the seeds, which will afford sufficient distinguishing characters; but rather the structure of the ovarium as regards the placentation of its ovula, and the various modifications of embryo.

If our ideas of the genus *Myrtus* are to be derived from the common Myrtle of the gardens, it will be characterized by a straight style, a 2-3-celled ovarium containing many ovula attached all round a thin central placenta, and by seeds with a slender arcuate embryo, of which the radicle is about twice as long as the cotyledons; and all the species which differ from it in these respects will probably be referable to other genera. As there is, however, considerable difficulty in procuring specimens of the fruit of many *Myrti* in our herbaria, it is impossible at present to ascertain which really belong to *Myrtus*, properly speaking, and which do not. We may nevertheless observe, that in placentation *M. tenuifolia, latifolia,* and *cerasina,* agree with it; and that the plant called *M. Pimenta latifolia* in the gardens has its ovula inserted in a similar way, but on a fungous placenta.

As *Myrtus disticha* with the same sort of placentation has a hooked style, and seeds without any distinction of radicle and cotyledons, it may be advisable to consider it as the type of another genus, which may for the present stand as a section of *Myrtus,* and be called *Olynthia,* in allusion to its seeds. We cannot imagine how Ventenat could describe a cylindrical arcuate embryo in his *M. horizontalis,* which certainly is a synonym of this plant: we are confident he must have been in error, particularly as Dr. Sims's observations upon the seed completely agree with ours.

The Allspice plant of the West Indies was long ago considered a distinct genus by Dr. Solander, who has called it *Myrcia* in his Manuscripts. It has a straight style, a stigma somewhat capitate, an ovary with two cells, each containing a single ovulum hanging by its middle from the top of the dissepiment, its seeds solitary, with the organization of *Myrtus. Myrcia* being very near *Myrsine* in sound, we would propose that the specific be altered to a generic appellation, and that the plant be called PIMENTA *officinalis.*

There is still a third set of plants, consisting of *M. crassifolia, montana, ramiflora, odora, splendens,* and some others from the same quarter of the world, which have a straight style, and a 2- or 3-celled ovary, with ovula growing by pairs from near the base of the dissepiment, as in *Pomaceæ.* Undoubtedly these will constitute another genus when their fruit shall have been examined. From the appearance of the impregnated ovule, we should judge their seeds to be like those of *Myrtus. M. tomentosa* has the same structure of ovarium, but its habit is very different.

Eugenia has exactly the same placentation as true *Myrtus,* but is distinguished by its very rigid stamens, which are quite different from the weak distorted ones of the other genera, and by its seeds (usually 1 or 2) having a transversely oblong embryo with very large fleshy cotyledons, including within their base a small conical radicle; and so differing from most other *Myrtaceæ,* just as *Eriobotrya* does from the rest of *Pomaceæ.*

We shall take some other opportunity of speaking of *Suzygium, Calyptranthes,* which has the seed of *Eugenia, Greggia,* and *Caryophyllus.*

EXPLANATION OF THE PLATE.

1. Flower-bud. 2. Flower. 3. Section of the same. 4. Transverse section of the ovarium. 5, 6. Anthers. 7. Pollen. 8. Top of the style and stigma. 9. Fruit. 10. Section of the same. 11. Seed. 12, 13. Sections of the same.

Myrtus distichа.

J.Lindley del.

1822 III
75

Tab. 20.

DENDROBIUM POLYSTACHYON.

NAT. ORD. Orchideæ. Sect. 5. *Br. Pr.* 1. 330. LINN. SYST. Gynandria Monandria.

DENDROBIUM, *Sw.* Labellum ecalcaratum, articulatum cum apice processûs unguiformis, cujus lateribus petala antica adnata calcar æmulantia. Massæ pollinis 4, parallelæ. *Br. in Ait. Kew. ed. alt.* 5. 212.

Helleborine ramosa; floribus minimis luteis. *Plum. Cat. p.* 9.
Epidendrum foliis radicalibus. *Plum. Am. t.* 185. *f.* 1.
Epidendrum minutum. *Aubl. Guian.* 2. 824.
Cranichis luteola. *Sw. Ind. Occ.* 3. 1433.
Dendrobium *polystachyon*; foliis subradicalibus lato-lanceolatis, scapo ancipiti, spicis pluribus alternis secundis. *Sw. Act. Holm.* 1800. *p.* 247. *Willd. Sp. Pl.* 4. 137. *Lodd. Bot. Cab. t.* 458.

DESCR. *Folia* in bulbo parvo, epigæo connata, cum petiolo vaginante articulata, decidua, vestigiis bulbum tunicantia, lanceolata, paulò obliqua, planiuscula, apice integerrima. *Spica* composita, *scapo* ancipite, bracteis longis, striatis, aridis, convolutis vestito. *Spiculæ* 4 breves, distantes, axi appressæ. *Flores* in dentibus racheos inserti, bracteâ solitariâ suffulti, parvi, luteo-virides, non resupinati, cuneiformes, v. circumscriptione quasi triangulari. *Laciniæ* conniventes: *exteriores* crassæ, carnosæ, inferiore ovatâ, distinctâ, lateralibus latis, ovatis, latere superiore valdè gibboso, cum stipite labelli connatæ eique appressæ; *interiores* tenuiores, pallidiores, lineares, uninerves, apice paulò dilatatæ, exterioribus breviores, columnam utrinque adstantes; *labellum* cum columnæ processu articulatum, eique incumbens, 3-lobum, disco furfuraceum, lobis lateralibus parvis, rigidis, dentiformibus, intermedio majore apice recurvo, rotundato, inciso. *Columna* subquadrata, angulis rotundatis, quàm laciniæ interiores 1-3 brevior, basi in rostro dimidiâ longitudine laciniarum exteriorum lateralium producta, utrinque apice anticè gibbosa, dorsi margine integro. *Gynizus* concavus, transversus, apiculatus. *Anthera* terminalis, operculiformis, quoad axin columnæ horizontalis, paulò ultra stigmatis apiculum protensa, intra marginem posticum columnæ inserta; ovata, 2-locularis, persistens, loculis sæpissimè vacuis, rarò fœtis; tum *massæ pollinis* duæ, solitariæ, luteæ, carnosæ, semper imperfectæ, præsertim ad apicem stigmati proximum.

For this rare parasitical plant we are obliged to Messrs. Loddiges, who have already given a figure of it in their Botanical Cabinet. It is a native of the West India Islands.

The anthers of the specimen we examined were mostly in an empty state; and in those which had produced their pollen masses there seemed to be an unnatural formation; for we could not succeed in detecting a single pollen mass which did not bear the appearance of having been injured. In some instances, however, the mass seemed to fill up the cell of the anther. It is therefore not unlikely that the number of pollen masses is always two, instead of four as in other *Dendrobia*; in which case it may be necessary to divide this plant from the genus; a measure which its peculiar habit strongly recommends.

EXPLANATION OF THE PLATE.

1. An entire flower. 2. The same seen in front. 3. The flower when its outer segments are cut away, showing the internal laciniæ, and the manner in which the labellum, which is forcibly turned back, is united with the process of the columna. 4. The same with the labellum in its natural position. 5. The labellum, showing the furfuraceous disk. 6. The column seen in front. 7. A portion of the same showing the gynizus. 8. Back view of the same portion of the column. 9. An anther. 10. A pollen mass.

Dendrobium polystachyon.

J. Lindley del.

Bot. Reg. 1834. 11. 111. 142. R.B.S.C. 37.

N°. 5. [Price 8*s*. Plain ; 12*s*. Coloured.

TO BE CONTINUED MONTHLY,

Collectanea Botanica;

OR,

FIGURES AND BOTANICAL ILLUSTRATIONS

OF

Rare and Curious Exotic Plants,

CHIEFLY CULTIVATED IN THE GARDENS OF GREAT BRITAIN.

By JOHN LINDLEY, F.L.S. & H.S.

London:

PRINTED BY R. AND A. TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL ; T. AND G. UNDERWOOD, FLEET-STREET ; W. WOOD, STRAND ; HATCHARD AND SON, PICCADILLY ; J. HARDING, ST. JAMES'S-STREET ; NORNAVILLE AND FELL, BOND-STREET ; J. H. BOHTE, YORK-STREET, COVENT-GARDEN ; W. CLARKE, NEW BOND-STREET.

1821.

COLLECTANEA BOTANICA.

THE object of this work is to exhibit accurate figures, accompanied by ample botanical illustrations, of the rare, or curious, or otherwise interesting plants which are either now cultivated in the gardens of Great Britain, or which it may be hereafter desirable to introduce. The drawings will be prepared by the author. The plates will contain all the details of the parts of fructification which it may be possible to procure; and it is hoped that, from this circumstance, they will not only be entitled to as high a degree of importance as any illustrative of botanical subjects, in this country, can claim; but, from the ample explanations to be given of them in the text, that they will offer an easy, and at the same time pleasing, introduction to the knowledge of vegetable organization.

To avoid the imputation of forcing upon the world, delineations of vegetables which have been already correctly and completely published by others, it is intended in the present work to figure none which have before appeared in the popular productions of the day, unless for the purpose of explaining some novel fact in their history, or structure, which may render such a measure justifiable. The materials already collected for the use of the work are considerable; and from the assurance he has received of support from his numerous friends in the vicinity of London, the author confidently ventures to anticipate an uninterrupted succession of novelties.

For the convenience of those who may favour the work with communications of sufficient extent to render it desirable, the plan, first proposed by Dr. Hooker in his elegant *Musci Exotici*, will be followed, of heading each page with a running title (such as *Lambertianæ, Cattleianæ, Griffinianæ*, &c.) expressive of the collection from which the subject of it was received. Purchasers will then have an opportunity of binding up the figures of their own plants separately.

To appear in monthly numbers; ten numbers to form a volume; each number to contain five plates in folio, and at least as many corresponding pages of letter-press. **Price 8*s*. plain; 12*s*. coloured.**

It was originally intended that a few copies should have been prepared with plates more highly finished than those of the common sets: but Subscribers are respectfully informed, that on more mature consideration it has been deemed advisable that this part of the plan should be relinquished. No other copies will therefore be delivered than those at 8*s*. uncoloured, and 12*s*. coloured.

A list of subscribers will be published at the close of the first volume.

Cochlis calycina

Tab. 21.

CEPHAËLIS CALYCINA.

NAT. ORD. Rubiaceæ. Sect. 6. *Juss. in Mem. Mus.* LINN. SYST. Pentandria Monogynia.

CEPHAËLIS, *Sw.* Involucrum 2-partitum, sæpè magnum, complectens flores plurimos supra receptaculum commune aggregatos, sessiles, bracteis distinctos, quarum extimæ involucrum interius mentientes 2 v. polyphyllum. Cal. proprius minimus, 5-dentatus. Corolla parva subinfundibuliformis 5-loba. Antheræ 5 subsessiles non exsertæ. Bacca minima, ovata, fœta 2 nucibus monospermis, hinc planis indè convexis. *Frutices aut Herbæ subligenosæ : capitula sæpè terminalia.* Juss. in Mem. Mus. 6. 402.

CEPHAËLIS capitulis axillaribus subsessilibus, involucro folioso floribus breviore, calyce maximo infundibulari irregulari.

DESCR. *Frutex* (Brasiliensis) compactus, nitidus. *Rami* breves, teretes, atro-virides. *Folia* opposita, oblongo-lanceolata, acuta, undulata, subsessilia, utrinque impubia, parùm rugosa, suprà lætè viridia, infrà albescentia, venis viridioribus. *Stipulæ* ovatæ, deciduæ, nigro-virides. *Flores* in capitulis subsessilibus, axillaribus, subsexfloris congesti, albi, *bracteis* foliosis, venosis, pallidè viridibus circumdati : interioribus s. partialibus, linearibus, paleaceis, quandoque nullis. *Calyx* magnus, infundibularis, membranaceus, glutinosus, irregularis, 5-dentatus, dentibus exterioribus majoribus, sinubus rotundatis. *Corolla* hypocrateriformis, calyce longior : *tubo* cylindraceo, cum ore viridi-luteo, infra faucem intùs pubescente : laciniis 5 horizontalibus, planis, oblongis, obtusis, tubo triplò brevioribus ; marcidis reflexis. *Antheræ* 5 sessiles, inclusæ, oblongæ, infra faucem insertæ, longitudinaliter dehiscentes, cum laciniis alternæ. *Ovarium* inferum, 2-loculare : loculis monospermis : ovulis erectis. *Discus* epigynus, luteus, crassus, in medio excavatus ad styli basin recipiendam. *Stylus* filiformis, sursum paulò incrassatus, impubis, tubo paulò longior. *Stigma* crassum, bilobum.

Although we have referred this plant to the genus *Cephaëlis,* it is only as a temporary measure, till its ripe fruit shall have been produced. There is every reason to believe it will then form a new genus in *Rubiaceæ,* allied on the one hand to *Psychotria,* and on the other to *Cephaëlis* ; but agreeing better with the latter than with the former in mode of inflorescence, and equally distinguished from either by its great, funnel-shaped, usually unequal calyx. Even with our present imperfect knowledge of this plant, we are not sure it would not have been better to have proposed it as a new genus, than to have referred it to an old one in which it cannot eventually remain ; even if its characters depended solely upon the peculiarity we have just noticed. We, however, have felt unwilling to do this in so difficult and extensive an order as *Rubiaceæ ;* and have preferred attaching to it as a specific name, a term which indicates a character altogether at variance with those of the other species, all of which are said to have a very minute calyx. We have diligently looked over all the Rubiaceous plants to which we have had access, and also M. de Jussieu's late most learned monograph of the order, without discovering any traces of a plant to which this can be referred.

It is at present uncommon in our gardens. Mr. Cattley's noble collection contains the plant from which our drawing was taken : and we have also observed it in the Kew Garden, where we were informed it was a native of Brazil.

EXPLANATION OF THE PLATE.

1. Flower. 2. Section of the same. 3. Anthers. 4. Calyx. 5. Section of the same and of the ovarium longitudinally. 6. Transverse section of the ovarium.

ways assumed by the perfect stamens after the anthers have performed their functions. Thirdly, that there is an equal analogy between the calyx of the neutral florets and that of the perfect floret; because both have a peculiar glandular margin; the same form; both produce their stamens from their surface; and because the upper edge of the calyx in the sterile florets has the same relation to the axis of each particular head, as that of the perfect floret has to the axis of the whole inflorescence. In *Reseda Phyteuma,* which has the margin of its neutral florets rolled back, the same thing occurs in the perfect floret. Fourthly, that there is no instance of the same analogy existing between the discus and petals of other plants. We may also observe, that in *Reseda Phyteuma* there is a campanulate tube to the calyx, into the upper edge of which the stamens are inserted.

To determine the affinity of *Reseda* to other orders will not be so easy as to explain its structure. One cannot avoid remarking the resemblance between its calyx and the squama of *Amentaceæ,* and *Ulmaceæ*. *Ficoideæ, Grossulaceæ* and *Cacti,* on account of placentation and structure of seed, may be supposed to have a certain relation to it: as may *Chenopodeæ* with regard to inflorescence, absence of petals and habit. But we are disposed to believe its real place in the system is in the neighbourhood of *Euphorbiaceæ,* where we have placed it in *Flora Scotica.* They agree with it in having the same sort of aggregation of flowers, similar habit, no corolla, and ternary division of ovarium. The insertion of their ovula is the same, as is also the direction of the radicle. They differ, however, Firstly, in the presence of albumen; which yet is not entirely absorbed in *Reseda* till the seed is perfectly ripe, and which exists even after that time in the seed of *R. alba,* when it is fleshy as in *Euphorbiaceæ*. Secondly, in their solitary seeds; in which respect *Resedaceæ* may be supposed to bear the same relation to *Euphorbiaceæ* as *Campanulaceæ* do to *Compositæ;* or as some sections of *Rubiaceæ* do to others. In *R. suffruticulosa* the ovules appeared to be reduced to a single row: and the same is said to obtain in *Ochradenus*. Thirdly, in elastic dehiscence of capsule; but as this is not universal in *Euphorbiaceæ,* it is not strictly speaking an objection of importance.

Explanation of the Plate.

1. Young head of flowers. 2. The same in a more advanced state. 3. A head of flowers seen from above, after the perfect floret has been cut away; showing the disposition of the neutral florets round the common axis. 4. A vertical section of a head of flowers. 5. The outside of an upper neutral floret. 6. Calyx of the perfect floret seen from above, after the stamens and ovarium have been removed. 7. Young anthers. 8. Anthers burst. 9. Pollen. 10. Ovarium. 11. A transverse section of it, showing the apparently three-fold insertion of ovula. A 1. Seed of *Reseda alba.* 2. Longitudinal section of the same. *Obs.* Both these are reversed, by an inaccuracy of the engraver, which was not noticed till the impression was struck off.

Tab. 22.

RESEDA MEDITERRANEA.

Nat. Ord. Resedaceæ, *D. C. Theor.*; *Lindley in Hook. Fl. Scot.* 2. 204. Linn. Syst. Dodecandria Trigynia.

RESEDA, *Linn.* Flores capitati; exteriores steriles; medius fertilis. *Lindl. l. c.*

Reseda Mediterranea; foliis integris trilobisque, calycibus flore brevioribus. *Jacq. Coll.* 1. 147. *Ic. Rar.* 3. *t.* 475. *Pers. Syn.* 2. 10.

Descr. *Caulis* 1½-pedalis, ascendens, angulatus, læviusculus, v. paululum scaber, foliosus. *Folia* radicalia spathulata, integerrima, superiora s. caulina alterna, exstipulata, triloba laciniis lanceolatis, undulatis. *Flores* luteo-virides, capitellati. *Capituli* in racemo denso, elongato dispositi, pedunculati, involucrati; involucrum 7-phyllum, foliolis linearibus, carnosis, leviusculis. *Flosculi exteriores* 7, cum foliolis involucri alterni, steriles, luteo-virides, calyce squamiformi, fimbriato, extùs stamina sterilia, falcata, dilatata gerente, quæ in flosculis rachi proximis sunt tria, in lateralibus duo, in inferioribus solitaria. *Flosculus fertilis* è medio exseritur; hujus calyx squamiformis, carnosus, fimbriatus, supernè glandulosus, latere superiore (rachi proximo) quam maximè dilatato. *Stamina* 12, in calyce, paulo supra fundum, inserta, deflexa, superiora paulò longiora. *Antheræ* incumbentes, ovatæ, cristatæ, anticæ, 2-loculares, longitudinaliter (superiores primùm) dehiscentes. *Pollen* ellipticum. *Ovarium* uniloculare, tricorne, glandulis scabrum, turbinatum; *ovula* numerosa, primùm horizontalia, demùm fœcundata? appensa, serie, externâ facie triplici, sed reverâ duplici inserta. *Styli* nulli. *Stigmata* simplicia sessilia. *Capsula* ovario simillima sed apice per faciem cornuum longè ante seminum maturitatem dehiscens. *Semina* non vidimus. In *Reseda alba* semina (A 1 & 2), sculptoris incuriâ in figura reversa, sunt reniformia, appensa, striis parallelis costata, duobus terminis per membranam duplicem testæ colligatis. *Testa* sub-crustacea. *Embryo* seminis cavitati conformis, teres, *radiculâ* superiore *cotyledonum* longitudine. *Albumen* parcissimum, carnosum.

However much our specimen may appear to differ from Jacquin's figure of his *Reseda Mediterranea*, we believe we are right in referring it to that species, on the authority of a specimen in the Banksian herbarium, in a state in which it precisely resembles our plant. It seems to be very near *Reseda lutea*, from which it chiefly differs in the absence of roughness in the stem, of hairs on the stamens, and of hispidity on the ovarium. Messrs. Loddiges communicated the plant from which our figure was taken.

In Dr. Hooker's *Flora Scotica*, in characterizing M. Decandolle's order of Resedaceæ, we have offered an entirely new hypothesis respecting the nature of the floral envelopes of *Reseda*; but as we had not an opportunity of explaining our ideas in detail in that work, we shall take the opportunity of doing so now. The usual idea of the flower of *Reseda* has been that it is furnished with a calyx of a variable number of divisions, with as many petals producing from their surface certain anomalous appendages, and with an ovary and stamens inserted on a great fleshy body, called *nectary* by Linnæan botanists, *squama* by others, and raised to the rank of a distinct organ by M. Mirbel under the name of *Gynophore*. To us, however, it has always appeared that this could by no means be the real structure of the plant, and that by a slight alteration of terms it not only might be much more satisfactorily explained, but its real affinity ascertained with some degree of probability. For even allowing for a moment an analogy between the *nectary* of this plant and the *discus* of others, particularly of some *Tiliaceæ*, there is still a great difficulty remaining to be overcome in the anomalous structure of the supposed petals, of which we can imagine no probable explanation.

We are therefore of opinion that a much more natural mode of understanding *Reseda* is to consider it as having compound flowers; taking the *calyx* of authors for an *involucrum*, their *petals* for *neutral florets*, and their *nectary* for the *calyx* of a *fertile floret* in the middle. In support of this opinion we may observe; Firstly, that there is a difference in the time of expansion of the neutral florets and of the stamens of the fertile one; the former being quite open in very many capituli before one anther of the latter has burst in a single flower. Secondly, that there is an evident analogy between the appendages of the neutral florets, and the stamens of the perfect florets; inasmuch as in *Reseda odorata* those of the upper sterile florets are of nearly the same number as the real stamens; because in *Reseda alba*, and some others, in which a union of filaments takes place in the perfect floret, there is a corresponding but more complete union of the sterile appendages; and because occasionally, in *Reseda odorata*, stamens are changed into bodies altogether similar to the sterile appendages; and in *Reseda Phyteuma* the same appearance is al-

J. Lindley del.

Réseda undata

Tab. 23.

PAPAVER BRACTEATUM.

NAT. ORD. Papaveraceæ, *Juss., Dec.* LINN. SYST. Polyandria Monogynia.

PAPAVER, *Linn.* Petala 4. Stamina plurima. Stylus nullus. Stigmata 4—20, radiantia, sessilia, super discum ovarium coronantem. Capsula obovata. *Dec. Syst.* 2. 69.

PAPAVER, petalis 5, capsulis glabris obovatis bracteis persistentibus involucratis, sepalis pilosis, caulibus unifloris scabris foliosis, foliis pinnatipartitis hispidis, lobis oblongis serratis.

DESCR. Habitus et characteres ut plurimùm *Papaveris orientalis.* Differt tamen caule nunquam ramoso; foliis concavis nec planis; floribus semper bracteatis; stigmatis radiis 16 nec 12, quod sæpius in *Papavere orientale* occurrit; dentibus disci stigmatici patentibus nec reflexis; demum florescentiâ præcociore, et aspectu viridiore. Variat floribus immaculatis et petalis 5; talis varietas quoad petalorum numerum delineatur.

In the recent elaborate monograph of *Papaveraceæ* by M. Decandolle, we find no mention made of this plant; which is undoubtedly distinct from *Papaver orientale,* although very similar to it at first sight. Besides flowering a month earlier, it is obviously distinguished by the great bracteæ which surround the base of the flower; and which never are absent, or even altered, in all the plants we have seen. There are also other differences, which we have noticed above.

It sometimes varies with five instead of four petals, which is an unexpected circumstance in the order; on which account we have represented it in that state, that the fact may not be neglected.

The calyx is pushed off by the corolla when expanding, without any disunion of the three pieces of which it is made up. In rainy or cloudy weather, or at night, the petals close over the stamens, and thus afford them an effectual protection.

Tournefort says the Turks eat the green heads of *Papaver orientale,* although excessively acrid.

Mr. Anderson communicated our specimens from the Physic Garden at Chelsea; where he has, by his unremitting assiduity, formed perhaps the finest and most interesting collection of hardy herbaceous plants ever in this country. He informs us that he has received it three different times from Dr. Fischer: first in 1818 under the name of *Papaver orientale speciosum:* secondly in 1819 by the name of *Papaver orientale pulcherrimum:* and thirdly in 1821 as *Papaver orientale grandiflorum.*

EXPLANATION OF THE PLATE.

1. Transverse section of the capsule half ripe. If this be compared with M. Richard's account of the capsule of *Papaver,* inserted in our note to the translation of his *Analyse du Fruit,* p. 6, it will be seen how completely it confirms his opinion of the nature of the septa; that is, that they are not, strictly speaking, dissepiments, but projecting placentas. 2. Stamen. 3. Pollen.

Papaver bracteatum?

Weddell. Sc.

Tab. 24.

PUSCHKINIA SCILLOIDES.

NAT. ORD. Asphodeleæ, *Juss.*, *Br.* LINN. SYST. Hexandria Monogynia.

PUSCHKINIA, *Marschall von Bieberstein.* Perianthium campanulatum, sexfidum. Stamina sex, in cono faucem coronante connata. Filamenta bidentata, in sinubus dentium antheras gerentia. *Herba (Sibiriæ) omninò Scillæ cujusdam minoris facie.*

PUSCHKINIA Scilloides. *Adam in Nov. Act. Petr.* fide *Marsch. von Bieb. Taur. Cauc.* 1. 277 et 3. 266. *Cent.* 2. *t.* 91, fide ejusdem. *Sims Bot. Mag.* 2244.
Adamsia Scilloides. *Willd. Enum. Suppl.* 16.

DESCR. Herbula facie et bulbo *Scillæ amœnæ*. *Folia* radicalia, glaberrima, striata, scapo breviora : 2 *primordialia* lata, oblonga, concava ; *seriora* angusta, teretia, fistulosa. *Scapus* 3-4-uncialis, foliis duplò longior, teres, glaber. *Racemus* laxus, multiflorus. *Flores* longè pedicellati, subcernui, pedicellis subæquilongis, ad basin bracteolatis. *Perianthium* persistens, sexfidum, super basin cæruleam constrictum, exinde campanulatum laciniis æqualibus, glaberrimis, oblongis, obtusis, albis, lineâ per axin cæruleâ. *Stamina* 6, in cono faucem perianthii coronante, connata, laciniis duplò breviora, iisque opposita. *Filamenta* apice bidentata, in sinubus dentium antheras gerentia, alba, subdiaphana. *Antheræ* sessiles, oblongæ, luteæ. *Discus* nullus. *Ovarium* oblongum, totam cavitatem coni replens, 3-loculare : loculis distichè octospermis. *Stylus* brevis, uncinatus, ultra stamina protrusus. *Stigma* simplicissimum.

Bulbs of this curious little plant were received last spring by Mr. Cattley from Dr. Fischer of Gorenki : from one of which, that soon afterwards produced its flowers, our figure was taken. We are informed by Bieberstein, that it grows spontaneously in Iberia, especially in the eastern districts, where it blossoms in spring with the Squills.

A figure and very accurate account have very lately been published by our friend Dr. Sims in the Botanical Magazine ; but the specimen from which his figure was taken, appears to have been an unusually weak one ; and on further consideration, we find our drawing differs from it in so many respects, that we offer no apology for publishing it again.

As a genus, it differs from *Ornithogalum* and *Scilla* in having a perianthium only partly divided, instead of one separated into six divisions ; and in the union of the filaments into a hollow cone, which arises from the summit of the short cup of the perianthium. But in the coherence of the stamens it is not so distinct from *Ornithogalum* as it at first sight appears to be ; for certain species of that genus have filaments protruding on each side beyond the anthers, and conniving into a similar cone. In these, however, there is no actual union of their edges, so that the characters of *Puschkinia* would still be good, even if the perianthium were absolutely the same as in *Ornithogalum*.

There is a curious and very unusual circumstance attending the vegetation of this plant, which we ought not to omit to mention. The two first leaves which appear are broad, flat, and concave, as in *Scilla sibirica ;* but those which come up afterwards are cylindrical, of the thickness of a crow-quill, and solid like the leaves of a rush. They proceed from the side of the broad leaves, and possibly may belong to newly formed bulbs ; but this we had no opportunity of ascertaining.

EXPLANATION OF THE PLATE.

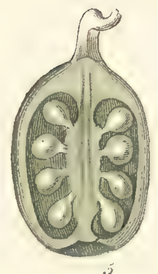
1. An entire flower. 2. A flower without its segments, showing the cone formed by the union of the stamens. 3. The flower cut open. 4. Ovarium. 5 and 6. Sections of the ovarium.

1

2

3

4


5

6

Puschkinia Scilloides. Adams. VI.
Adamsia Scilloides. N. VI/3. Gn. 12 12. VI/II 65.

Hatley del.

Tab. 25.

GOODYERA PUBESCENS.

Nat. Ord. Orchideæ, Sect. 2. *Br.* Linn. Syst. Gynandria Monandria.

GOODYERA, *Br.* Cor. ringens: petalis exterioribus anticis labello infernè gibboso supernè indiviso suppositis. Columna libera. Pollen angulatum. *Br. in Hort. Kew. ed. alt.* 5. 197.

Goodyera foliis radicalibus ovatis, labello ovato acuminato, petalis ovatis. *Br. in l. c. p.* 198.
Neottia pubescens. *Willd. Sp. Pl.* 4. 76.
Satyrium repens. *Mich. Bor. Am.* 2. 157.

Descr. *Radices* fasciculato-fibrosæ, pilosæ; unicâ ramosâ, cæteris simplicibus. *Folia* radicalia plana, ovata, obtusa, obscurè viridia, venis pallescentibus; subtùs pallidè viridia, unicolora. *Scapus* simplex, pedalis, teres, glandulis rufescentibus pubescens, folia ovata, acuta, sessilia gerens. *Flores* parvi, viridescentes, in spicâ simplici, subspirali dispositi. *Bracteæ* foliis caulinis conformes, ovarii longitudine, glandulosi. *Perianthium* globoso-connivens; *laciniis exterioribus* pallidè viridibus, ovatis, obtusis, subæqualibus, extùs glandulosis: inferioribus labello suppositis; *interioribus* nudis, diaphanis, superiori æqualibus et agglutinatis. *Labellum* dependens, cum columnâ articulatum, album, carnosum, globosum, ventricosum, sub-5-nerve, apice in rostro acuminato productum. *Columna* erecta, libera, clavata, apice bidentata, labelli longitudine. *Gynizus* anticus, transversus, elevatus, viscidus, apiculatus, mox emarginatus. *Anthera* dorsalis, in cavitate verticis columnæ jacens, et ad apicem in apiculo gynizi incumbens, filamento brevi pedicellata, cordata, 2-locularis, loculis discretis. *Massæ pollinis* 4, granulosæ, non deciduæ, apici loculorum affixæ. *Ovarium* crassum, valdè glandulosum, contortum.

This is one of the genera established by Mr. Brown in the last edition of the *Hortus Kewensis.* It was named after Mr. John Goodyer, a Hampshire botanist mentioned in Gerarde's Herbal; and was founded upon the old *Satyrium repens* of Europe, and the *Neottia pubescens* of Willdenow.

Sir James Smith has given it as his opinion that *Goodyera* is not distinct from *Neottia* of Brown; an assertion which we apprehend he will be induced, after more mature consideration, to retract. If *Ophrys spiralis* be considered the type of *Neottia* of Brown, or of Richard's *Spiranthes,* as it undoubtedly must be, certain tropical plants referred to it being excluded, a very natural group of plants is formed, differing equally in habit and technical characters from *Goodyera.* The latter genus has an inflated lip hanging down, and forming a very obtuse angle with the columna; a transverse, slightly apiculate gynizus; and a nearly sessile anther with angular pollen. *Spiranthes,* on the contrary, has a shovel-shaped lip, parallel with the columna, and furnished at its base on each side with a tubercle, by modifications of which, the species may be satisfactorily distinguished; a narrow, sometimes subulate gynizus; and a pedicellate anther with round pollen. We prefer retaining M. Richard's name *Spiranthes,* because *Neottia* should rather be applied to the *Nidus Avis,* referred to his *Listera* by Mr. Brown, but differing from that genus, that is to say, from *Ophrys ovata* and *cordata,* both in habit and structure.

Native of North America, particularly of the northern states, from many of which we have frequently received specimens. Our figure was taken from a plant which flowered in Mr. Brookes's Nursery at Newington Green. It has also been sent us by Robert Barclay, Esq.

We believe M. Rafinesque has somewhere called this plant *Nelis repens;* but we have not been able to ascertain in what work.

Explanation of the Plate.

1. Front of the flower. 2. Back of the same. 3. Side view of the same without the perianthium. 4. Front of the columna. 5. Back of the same. 6. Front of the same before the flower expands. 7. Front of the anther. 8. Back of the same. 9. Pollen.

Goodyera pubescens. Willd.

COLLECTANEA BOTANICA.

THE object of this work is to exhibit accurate figures, accompanied by ample botanical illustrations, of the rare, or curious, or otherwise interesting plants which are either now cultivated in the gardens of Great Britain, or which it may be hereafter desirable to introduce. The drawings will be prepared by the author. The plates will contain all the details of the parts of fructification which it may be possible to procure; and it is hoped that, from this circumstance, they will not only be entitled to as high a degree of importance as any illustrative of botanical subjects, in this country, can claim; but, from the ample explanations to be given of them in the text, that they will offer an easy, and at the same time pleasing, introduction to the knowledge of vegetable organization.

To avoid the imputation of forcing upon the world, delineations of vegetables which have been already correctly and completely published by others, it is intended in the present work to figure none which have before appeared in the popular productions of the day, unless for the purpose of explaining some novel fact in their history, or structure, which may render such a measure justifiable. The materials already collected for the use of the work are considerable; and from the assurance he has received of support from his numerous friends in the vicinity of London, the author confidently ventures to anticipate an uninterrupted succession of novelties.

For the convenience of those who may favour the work with communications of sufficient extent to render it desirable, the plan, first proposed by Dr. Hooker in his elegant *Musci Exotici,* will be followed, of heading each page with a running title (such as *Lambertianæ, Cattleianæ, Griffinianæ, &c.*) expressive of the collection from which the subject of it was received. Purchasers will then have an opportunity of binding up the figures of their own plants separately.

To appear in monthly numbers; ten numbers to form a volume; each number to contain five plates in folio, and at least as many corresponding pages of letter-press. Price 8*s.* plain; 12*s.* coloured.

It was originally intended that a few copies should have been prepared with plates more highly finished than those of the common sets: but Subscribers are respectfully informed, that on more mature consideration it has been deemed advisable that this part of the plan should be relinquished. No other copies will therefore be delivered than those at 8*s.* uncoloured, and 12*s.* coloured.

A list of subscribers will be published at the close of the first volume.

No. 6

[Price 8s. Plain; 12s. Coloured.

TO BE CONTINUED MONTHLY,

Collectanea Botanica;

OR,

FIGURES AND BOTANICAL ILLUSTRATIONS

OF

Rare and Curious Exotic Plants,

CHIEFLY CULTIVATED IN THE GARDENS OF GREAT BRITAIN.

By JOHN LINDLEY, F.L.S. & H.S.

London:

PRINTED BY R. AND A. TAYLOR, SHOE-LANE.

SOLD BY J. AND A. ARCH, CORNHILL; T. AND G. UNDERWOOD, FLEET-STREET; W. WOOD, STRAND; HATCHARD AND SON, PICCADILLY; J. HARDING, ST. JAMES'S-STREET; NORNAVILLE AND FELL, BOND-STREET; J. H. BOHTE, YORK-STREET, COVENT-GARDEN; W. CLARKE, NEW BOND-STREET.

1821.

919

When this work was commenced it was the intention of the Author, as he announced at the time, to continue it regularly in monthly parts; for which purpose a considerable number of drawings had been prepared. It was his determination that neither care nor cost should be spared in making it worthy of public support: and, as pecuniary remuneration was never expected, the price was only calculated to defray the actual expenses incurred in the course of its publication. A variety of circumstances, which it is not necessary to mention here, have, however, induced him to swerve from his original design; and to resolve upon abandoning the undertaking altogether after the publication of four more numbers. These will appear at uncertain intervals, as he may be able to devote the necessary time to their preparation. In taking leave of his Subscribers for the present, he feels it his duty to offer them his thanks for the liberal encouragement they have given him, although causes, over which he had no controul, have rendered it necessary that an earlier termination should be put to the work than was originally contemplated.

London, October 31, 1821.

Tab. 20.

J. Lindley del.

Weddell. Sc

Theophrasta Jussiaei

Tab. 26.

THEOPHRASTA JUSSIÆI.

NAT. ORD. Strychneæ. *Br.* LINN. SYST. Pentandria Monogynia.

THEOPHRASTA, *Juss., Swartz., non Linn.* Cal. 5-partitus, persistens, laciniis imbricatis. Corolla obtusa, cylindrico-campanulata, 5-loba, lobis imbricatis rotundatis. Corona versus basin corollæ inserta, 5-phylla, foliolis cuneatis, dorso clypeatis, carnosis, infrà medium connatis, lobis corollæ oppositis. Stamina 5, distincta, basi coronæ inserta, foliolisque ejus alterna. Antheræ in conum conniventes, extrorsæ, innatæ, apiculatæ, biloculares, longitudinaliter dehiscentes. Ovarium liberum, 2-loculare, loculis polyspermis. Stylus simplex. Stigma capitatum, 2-lobum. Bacca subpulposa, 1-locularis, polysperma, cortice fragili. Semina plurima, receptaculo centrali, stipitato inserta, ovata, versus extremitatem majorem hilum papilliformem gerentia. Testa mucilaginea, tenuis, facilè separabilis. Embryo in albumine corneo, extrà axilis ; radiculâ cylindricâ hilo proximâ : cotyledonibus ovatis planis. "*Arbuscula caule simplici : folia confertìm subverticillata, maxima, longa, dentato-spinosa ; (spinulæ axillares, minimæ, verticillatæ, cauli appressæ, mòx caducæ ;) ex D. Lahaye apud Domingenses Parocho ; flores inter folia conferto-corymbosi, terminales.* Juss. Gen. 150."

THEOPHRASTA JUSSIÆI.

Theophrasta americana. *Herb. Desf. Juss. non Linn.*

DESCR. *Folia* ad extremitates ramorum congesta, sessilia, oblongo-lanceolata, undulata, inæqualiter antrorsùm retrorsùmque spinoso-dentata, rigida, nitidissima, subenervia, marginata, subverticillata, stipulâ ? acerosâ, subulatâ, deciduâ, intermediâ. *Racemi* terminales, numerosi, subcorymbosi, 5-6-flori. *Pedicelli* ad basin et medium bracteolati, floribus 3-plò longiores. *Flores* albi, cernui. *Calyx* brevis, 5-partitus, campanulatus ; laciniis ovatis, denticulatis. *Corolla* uncialis, pentagona, limbo 5-lobo suberecto, tubo triplò breviore, super basin ad insertionem staminum constricta. *Corona staminea* brevissima, carnosa, pentagona, urceolata, pentaphylla ; foliolis connatis, laciniis corollæ oppositis, trilobis, lobis lateralibus minimis, medio cuneato, ad margines papilluloso, dorso clypeato. *Stamina* 5, foliolis coronæ alternæ ejusque basi inserta. *Filamenta* compressa, subulata. *Antheræ* extrorsæ, innatæ, apiculatæ, 2-loculares, loculis basi paulo distantibus, coronâ breviores, in conum conniventes. *Ovarium* parvum, ovatum, 2-loculare, polyspermum, ovulis placentæ centrali affixis. *Stylus* cum ovario continuus. *Stigma* capitatum, 2-lobum. *Bacca* pomi minoris magnitudine, cortice luteo, rugoso, maculato, fragili. *Cætera* uti suprà.

This plant has been improperly considered the *Theophrasta americana* of Linnæus, not only by botanists in this country, but even by M. de Jussieu himself; as we have ascertained by specimens most liberally communicated to us by our friend M. Desfontaines. That plant, however, which probably has never been seen by any one since Plumier, from whose account of it the characters of Linnæus were taken, will be found on examination to be not only specifically, but even generically, distinct from the plant before us.

Plumier describes his *Eresia* as a tree with the simple stem of a palm, bearing its leaves at the summit ; and from his figure it appears that the flowers are disposed in long spikes growing from the centre of the leaves ; they seem to be small, with a limb of the same length as the tube of the corolla. Our plant, on the contrary, has a stem one or two feet high, flowers growing in short corymbose upright racemes from the centre of the leaves, and a corolla with the tube very much shorter than the limb. In only one of these particulars does *Eresia* agree with our plant, and that is of little comparative importance ; namely, in the place from whence the flowers proceed.

But if the apparent characters of *Eresia* be compared with certain species of the genus *Clavija* of the *Flora Peruviana*, the resemblance will be found so great, that there can be no doubt of their generic identity ; notwithstanding certain differences in Plumier's figures of the flowers of his plant : on which, we conceive, no confidence can reasonably be placed.

Of *Clavija* we have been permitted by Mr. Lambert to examine the flowers of several species. Their structure is so extremely different from that of the plant which M. Jussieu described, that we imagine no one can now contemplate the possibility of their all belonging to the same genus : which that profound botanist formerly conjectured might be the case.

We have subjoined the characters of *Clavija*, of which Mr. Lambert possesses many fine species. Jacquin's *Theo-*

phrasta longifolia must be referred to it; and is possibly, as Sir James Smith has supposed, the very same plant as Plumier's *Eresia*. It is probable that the *Theophrastæ macrophylla, latifolia,* and *pungens* of Römer and Schultz are species of *Clavija*. But whether the *T. madagascariensis* of the same authors, and *pinnata* of Jacquin, be referable to it also, is not equally certain.

Having thus pointed out the generic differences of the *Theophrastæ* of Jussieu and Linnæus, it remains to be determined with which plant the name ought to remain. As that of Linnæus was first published, it would, according to the usual manner of settling such affairs, belong to his plant rather than to Jussieu's. But as in the present instance the latter botanist described his plant so satisfactorily, that it has always been recognised by succeeding authors, which Linnæus was unable to do, on account of his want of materials, we have preferred retaining the name *Theophrasta* for Jussieu's genus, altering only the specific name. The other may then be called *Clavija*; since the original name *Eresia* must not, it seems, be admitted.

Our figure was taken from fine specimens communicated to Mr. Lambert by Dr. Hamilton, who collected them in St. Domingo.

The other plants in the gardens about London, which are considered species of *Theophrasta,* probably belong to more genera than one; at least not to *Theophrasta*. One which we observed in flower at Kew some time ago, seemed to us to be a species of *Elæodendrum*.

Explanation of the Plate.

1. Calyx. 2. Corona without the limb and tube of the corolla. 3. A portion of the same laid open, showing the insertion of stamens. 4. Stamen. 5. Ovarium. 6. Longitudinal section of the same. 7. Transverse section. 8. Fruit. 9. The same with one side cut away, to exhibit the placentation. 10. Seed. 11. Another view of the same. 12. Section of the same. 13. Embryo.

CLAVIJA *Fl. Per.*

(Eresia *Plum.* Theophrasta *Linn., Smith.*)

Calyx carnosus, campanulatus, quinquefidus : laciniis imbricantibus, margine membranaceis. Corolla hypocrateriformis, brevis, carnosa : tubo brevissimo, obconico ; limbo plano, quinquelobo, ad basin laciniarum cristato, ad sinus processubus quinque carnosis, linguiformibus, integris, appendiculato. Stamina 5, in cylindro coalita, basi tubi inserta, laciniis corollæ alterna. Antheræ posticæ, connatæ, stigma tegentes, carnosæ, triangulares, effœtæ capitulum 10-radiatum efformantes. Ovarium simplex, 1-loculare : placentâ centrali, demum liberâ, polyspermâ. Stigma 3-lobum, sessile. Fructus *Theophrastæ* (ferè). *Frutices* (Americæ meridionalis) *foliis spinoso-dentatis, floribus spicatis pendulis, stipulis nullis.*

Tab. 27.

ONCIDIUM BARBATUM.

NAT. ORD. Orchideæ. Sect. 5. *Br.* LINN. SYST. Gynandria Monandria.

ONCIDIUM *Sw.* Labellum explanatum lobatum basi tuberculatum. Petala patentia, (2 antica nunc connata). Columna alata. Massæ pollinis 2, postice bilobæ : medio affixæ processu communi stigmatis. *Br. in Hort. Kew. ed. alt.* 5. 215.

ONCIDIUM (*barbatum*) foliis planis oblongo-lanceolatis, laciniis perianthii obovatis undulatis obtusis : inferioribus basi connatis, labello transverso laciniis breviore : lobo medio barbato, apice producto imberbi semi-bifido, lateralibus majoribus planis rotundatis, alis columnæ rotundatis.

DESCR. Bulbosa. *Folia* plana, oblongo-lanceolata, emarginata, suberecta. *Panicula* flexuosa, multiflora, sparsa. *Perianthii* laciniæ patentes, lanceolatæ, undulatæ, obtusæ, labello longiores, fulvæ, maculis atrioribus variegatæ : duæ inferiores exteriores angustiores, parte inferiore connatæ ; interiores latiores. *Labellum* dependens, 3-lobum, luteum ; lobo medio convexo, in discum sanguineo maculatum tuberculato, fimbriato, apice producto, imberbi, semi-bifido ; lateralibus rotundatis, unguiculatis. *Columna* cum labello continua, porrecta, laciniis ferè triplò brevior, semiteres, lutea, dorso purpureo variegata, apice utrinque alâ rotundatâ instructa. *Gynizus* subrotundus, concavus. *Anthera* opercularis, terminalis, decidua, 1-locularis. *Pollinis massæ* 2, posticè sulcatæ, infra apicem pedicelli carnosi insertæ, glandulâ brunneâ apici stigmatis affixæ.

For the figure of this new species of *Oncidium* we are indebted to Dr. Hooker. It was received by him, with several other fine Orchideous plants, from William Swainson, Esq., who collected it during his residence in Brazil.

In the latest enumeration of the species of this genus, which we believe is in Persoon's *Synopsis*, only five species are mentioned ; of which one is doubtful. But Swartz, from whom this account is copied, seems to have had no very distinct idea of the limits between *Oncidium* and *Cymbidium*, which were first satisfactorily pointed out by Mr. Brown, as several plants referred by him to the latter genus decidedly belong to the former. Mr. Brown has already shown that the *Cymbidium triquetrum* of that botanist is a species of *Oncidium ;* as M. Kunth has with respect to his *Cymbidium pusillum*. We have ourselves ascertained, by means of the Banksian herbarium, that the same is the case with *Cymbidium juncifolium*, which, in fact, is very nearly related to *Oncidium Cebolleta :* and we presume from Plumier's figure, that there can be no reason to doubt that *Cymbidium cuneatum* is an *Oncidium* also. These additions, and the new species published by Kunth, Sims and Meyer, with our *O. barbatum*, and another new species from Mexico, sent to Mr. Lambert by Pavon, will make the number of species now amount to 19 ; or to 20 if the *Ionopsis* of Kunth be a species of *Oncidium*, as Dr. Meyer supposes.

In one portion of them the two anterior divisions of the flower cohere more or less intimately : sometimes forming a single piece, but more usually cohering simply at their base ; always, however, more or less concealed by the labellum. In the rest there is no union whatever of this kind ; but as the two groups differ in no other respect, they can only be considered sections of the same very natural genus ; which may be thus arranged :—

ONCIDIUM.

* *Perianthii foliola omnia discreta.*

1. altissimum, *Sw.*—2. pictum, *Kunth ; scarcely distinct from No.* 1.—3. Carthaginense, *Sw.*—4. panduriferum, *K.*—5. ornithorhynchum, *K.*—6. echinatum, *K.*—7. olivaceum, *K.*—8. globuliferum, *K.*—9. emarginatum, *Meyer.*—10. barbatum, *Nobis.*—11. Cebolleta, *Sw.*—12. juncifolium, *Nobis* (Cymbidium juncifolium, *Sw.*); *foliis teretibus subulatis, perianthii laciniis tessellatis acutis undulatis, labelli lobo medio maximo unguiculato emarginato basi appendiculato, columnæ alis maximis apicilaribus.*

** *Perianthii foliola 2 anteriora connata.*

13. triquetrum, *Br.*—14. iridifolium, *K.*—15. tetrapetalum, *Sw.*—16. bifolium, *Sims.*—17. variegatum, *Sw.*—18. pauciflorum, *Nobis* (Epidendrum acinaciforme, *Pavon MSS.*) ; *foliis lineari-lanceolatis integerrimis falcatis, perianthii laciniis obovatis rotundatis undulatis : inferiore minore emarginato, labelli maximi lobo medio unguiculato lunato emarginato, columnæ alis maximis.*

*** *Species Dubiæ.*

19. cuneatum, *Nobis* (Cymbidium guttatum, *Sw.*)—20 ? Ionopsis pulchella, *K.*

The only plants of this species in the country exist in the Glasgow Botanic Garden, and in Mr. Cattley's collection.

EXPLANATION OF THE PLATE.

1. Front view of a flower. 2. Back view of the same. 3. Back of the labellum. 4. Columna. 5. Front of the same without the anther. 6. The same without the pollen masses ; and with the *alæ* of the column spread open. 7. Pollen masses. 8. Anthers.

Oncidium barbatum . 1605 XX/1

W. J. H. Esqr. del.

Chas. Fox del.

Tab. 28.

ORNITHOGALUM FIMBRIATUM.

NAT. ORD. Asphodeleæ, *Br.* LINN. SYST. Hexandria Monogynia.

ORNITHOGALUM, *Linn.* Corolla hexapetala, erecta, persistens, supra medium patens. Filamenta basi dilatata. Capsula trilocularis. Semina subrotunda, nuda. *Hort. Kew. ed. alt.* 2. 256.

ORNITHOGALUM *fimbriatum,* racemo subcorymboso, pedunculis bractearum longitudine: fructiferis elongatis patentissimis, foliis linearibus canaliculatis pilosis.

Ornithogalum samium villosum umbellatum album. *Tournef. Cor.* 26. (ex Bieb.)

Ornithogalo umbellato affine foliis pilosis. *Pall. in Nov. Act. Petrop.* 10. 309.

Ornithogalum fimbriatum. *Willd. in Nov. Act. Berol.* 3. 420. *Pers. Ench.* 1. 364. *Bieb. Taur. Cauc.* 1. 276. *Cat. Hort. Gorenk. ann.* 1812. 9. *Hoffm. Mosq. ann.* 1808. *n.* 2262. *Bess. Cat. Hort. Crem. ann.* 1816. 94. *Bieb. Suppl.* 266. *Edwards's Bot. Regist.* 555. mala.

DESCR. Bulbus ovi anatini magnitudine, pallidus, ferrugineo maculatus. *Folia* linearia, canaliculata, obtusa, margine pilosa, paululum torta. *Racemus* brevis, subcorymbosus, scapo pedunculisque glabris. *Bracteæ* ovatæ, acutæ, membranaceæ, pedunculi longitudine. *Flores* colore et magnitudine *Ornithogali umbellati;* variant laciniis acuminatis.

This very pretty and distinct species of *Ornithogalum* was sent to Mr. Cattley by Dr. Fischer; and flowered in his garden last February.

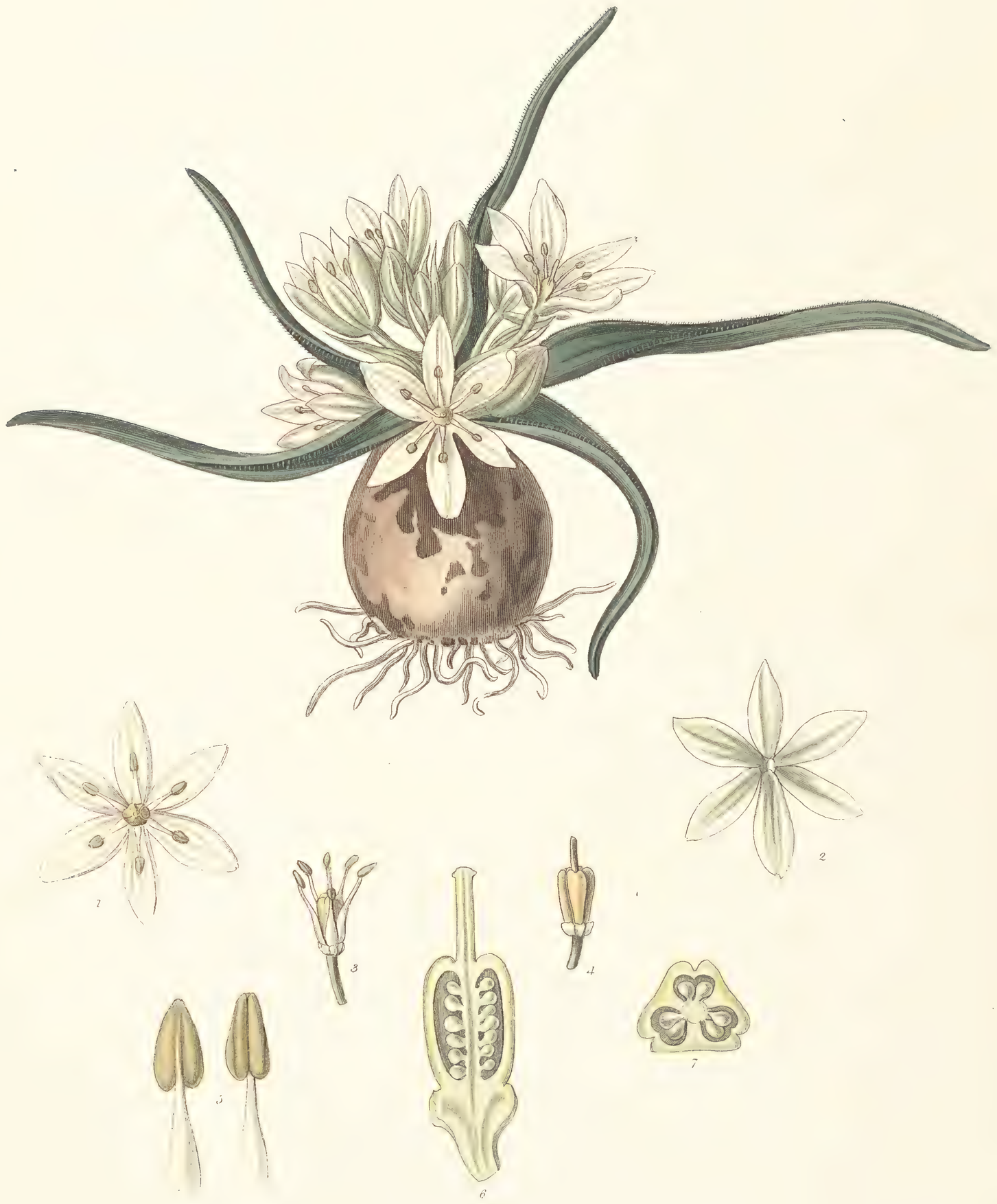
Independently of its dwarf habit and ciliated leaves, which in native specimens are frequently covered all over towards the base with little hairs, it differs from *O. umbellatum* in having bracteæ of the same length as the flowerstalks. The hairiness on the stem and peduncles, mentioned by Bieberstein, was certainly absent from our specimens; nor did we observe any upon the plant belonging to the Horticultural Society, from which the figure in Edwards's Botanical Register was taken.

If it is possible to judge from Tenore's figures of *Orn. montanum* and *exscapum,* there is no good reason for supposing them distinct from *Ornithogalum umbellatum.*

This plant is a native of the Crimea, where it was found by Bieberstein.

EXPLANATION OF THE PLATE.

1. Front view of an expanded flower. 2. Back of the same. 3. Side view of the same without the segments. 4. Ovarium. 5. Stamens. 6. A longitudinal section of the ovarium. 7. Transverse section of the same.



Ornithogalum fimbriatum

Tab. 29.

TRIUMFETTA RHOMBOIDEA.

NAT. ORD. Tiliaceæ, *Juss.* LINN. SYST. Dodecandria Monogynia.

TRIUMFETTA, *Linn., Juss.* Calyx pentaphyllus, deciduus. Petala 5, linearia, sub apice acuminata. Stamina 16. Stylus 1. Stigmata 2. Capsula globosa, parva, undique echinata aculeis uncinatis, 4-locularis, loculis 2-spermis. *Frutices; pedunculi axillares, umbellatim* 1—5-*flori. Infimi foliorum dentes in quibusdam glanduloso-concavi.* Juss. Gen. 290.

TRIUMFETTA *rhomboidea. Jacq. Amer.* 147. *t.* 90.

Triumfetta (*rhombeæfolia*) foliis rhomboideis, summis lanceolato-ovatis, floribus completis. *Swartz. Prodr.* 76. *Willd. Sp. Pl.* 2. 856.

DESCR. *Caules* suffrutescentes, teretes, pubescentes. *Folia* alterna, petiolata, stipulis deciduis, subulatis: *inferiora* rhomboidea, serrata, mollia, 3-nervia; *superiora* ovato-lanceolata. *Flores* in racemis brevibus axillaribus et terminalibus, bracteolati. *Bracteæ* subulatæ, deciduæ. *Calyx* 5-phyllus, sepalis erectis, oblongis, valvatis, concavis, pilosis, apice cucullatis, antheras retinentibus. *Petala* 5, convoluta, unguiculata, apiculata, sepalorum basibus inserta, et cum iis et staminibus decidua. *Stamina* ultra duodecim intra membranam (*discum*) cyathiformem, ciliatam, ovarii pedicellum in medium cingentem, serie simplici inserta, circa stylum contorta. *Filamenta* filiformia, transversim rugosa. *Antheræ* anticæ, ovatæ, incumbentes, 2-loculares, demum cohærentes. *Ovarium* pedicellatum, ovatum, pilis uncinatis armatum, 3-loculare, loculis dispermis. *Ovula* appensa. *Stylus* filiformis, cum ovario articulatus, staminum longitudine, apice 3-fidus: lobis minimis subulatis. *Stigmata* puncta simplicissima.

The plants from which our figure of this species of *Triumfetta* was taken, were raised by Mr. Lambert from seeds thirty years old, obtained from a specimen collected in Peru by M. Pavon.

The racemes of flowers frequently become more elongated than we have represented them, and particularly so in West Indian specimens; owing, no doubt, to the difference in temperature of different places. There is not much beauty in the plant, unless it is very profusely in flower; when the contrast between the little yellow blossoms and very dark green leaves is agreeable enough.

The discus is placed on the outside of the base of the stamens, and exhibits the appearance of a little membranous hairy cup. The hooks of the surface of the ovarium consist of two unequal joints; the terminal one much smaller than the other, and curved like the claw of an insect.

EXPLANATION OF THE PLATE.

1. A young bud. 2. An open flower. 3. The same; the sepals being removed. 4. The same without the petals. 5. The ovarium. 6. A longitudinal section of the same. 7. A transverse ditto. 8. Hooks of the surface of the ovarium. 9. Top of the style. 10. Anthers.

J. Lindley del.

Triumfetta rhomboidea Jacq. var. N. ×2/3.

Weddell Sc.

Tab. 30.

SPIRANTHES PUDICA.

NAT. ORD. Orchideæ. Sect. 2. *Br.* LINN. SYST. Gynandria Monandria.

SPIRANTHES, *Rich.* Ophrys, *Linn.* Neottia, *Sw. Br.* Gyrostachys, *Pers.*—Perianthii laciniæ in cylindro conniventes. Labellum porrectum, planum, apice fimbriatum, basi bicallosum, marginibus columnam cum eo parallelam arctè amplectentibus. *Herbæ graciles* (Europæ, Americæ Septentrionalis, et Asiæ temperatæ). *Folia angusta, radicalia. Spicæ densæ, tortiles.*

SPIRANTHES (*pudica*), foliis lineari-lanceolatis, labello sub-sessili apicem versus crenulato: callis subrotundis, perianthii laciniis ovario rachique glaberrimis.

DESCR. *Folia* erecta, lineari-lanceolata, acuta, plana, enervia. *Scapus* glaberrimus, teres, subflexuosus, *bracteis* vaginantibus, acuminatis vestitus. *Flores* parvi, albi, erubescentes, in spicâ tortili glaberrimâ horizontaliter dispositi. *Laciniæ* glaberrimæ, ovato-lanceolatæ, obtusæ, cum labello parallelæ. *Labellum* breviter pedicellatum, oblongum, apice dilatatum, pubescens, columnam marginibus oppositis amplectens; basi callis duobus, villosis, globosis munitum. *Columna* porrecta, clavata, anticè *gynizum* hemisphæricum, viridissimum, glabrum ferens, apice in linguâ lanceolatâ, obtusiusculâ, dorso uniglandulosâ productum. *Anthera* postica, erecta, 2-locularis, massas pollinis 4, farinaceas, per paria cohærentes, glandulæ gynizi adhærentes promens.

We have already, under the article *Goodyera pubescens*, TAB. 25, endeavoured to explain why we prefer the name *Spiranthes* to that of *Neottia;* and on what grounds we differ from the learned President of the Linnean Society in considering it distinct from *Goodyera*. And we think, if the details of the two genera as expressed upon our plates be compared, there can be no reasonable doubt of their being truly distinct.

This very pretty species of *Spiranthes* was imported by the Horticultural Society from China in the spring of the present year (1821); and flowered in their stove in July last. The form of its leaves, and the total absence of pubescence from every part of its inflorescence, afford abundant marks of difference between it and *Spiranthes autumnalis, æstivalis,* and *tortilis,* with which alone it can possibly be confounded.

After the flower of this genus has been expanded for a short time, the glandular portion of the gynizus separates from the rest, and adheres firmly to the pollen masses; thus giving the top of the gynizus, after a certain time, the appearance of being cleft.

EXPLANATION OF THE PLATE.

1. A flower-bud. 2. The same without its bractea. 3. The same after the laciniæ have been removed. 4. The same without the labellum. 5. The last in front. 6. The same after the anther is removed. 7. Anther of the bud. 8. Expanded flower. 9. The same without the laciniæ. 10. Labellum. 11. Gynizus seen from the side. 12. Anthera. 13. Pollen masses.

J. Lindley del.

Spiranthes pudica Lindl.

Weddell. Sc.

Tab. 31.

LISSOCHILUS SPECIOSUS.

Nat. Ord. Orchideæ. Sect. 5. *Br.* Linn. Syst. Gynandria Monandria.

LISSOCHILUS, *Br. MSS.* Perianthii laciniæ interiores maximæ, patentes, alæformes: exteriores minimæ, reflexæ. Labellum anticum, gibbosum, sulcatum, porrectum; basi auriculatum, saccatum, cum columnâ connatum. Pollinis massæ 2, posticè 2-lobæ, per processum communem dilatatum gynizi apici connatum cohærentes. *Herba terrestris, bulbosa* (Promontorii Bonæ Spei). *Folia longa, plana, carnosa, enervia, ensiformia. Flores lutei, speciosi, alati, in racemo simplici dispositi.*

Lissochilus *speciosus. Br. MSS.*
Satyrium giganteum. *Linn. Suppl.* 402?

Descr. *Folia* ensiformia, subrigida, erecta, enervia, e radicibus bulbosis confertis provenientia, scapo 3-plò breviora. *Scapus* radicalis, 3-pedalis, erectus, glaberrimus, teres, bracteis pluribus, striatis, internodiis brevioribus, vaginantibus, subinflatis vestitus. *Flores* maximi, speciosi, alati, in racemo multifloro elongato dispositi, glaberrimi, *bracteis* horizontalibus, lanceolatis, margine crassioribus, basin versus subundulatis subtensi. *Perianthii* laciniæ 3 exteriores virides, ovatæ, reflexæ, æquales; interiores luteæ, maximæ, ellipticæ, patentes, striatæ. *Labellum* anticum, ovatum, porrectum, pallidè luteum: medio gibbosum, sulcatum, purpureo tinctum; basi auriculatum, saccatum, cum columnâ connatum. *Columna* aptera, erecta, *gynizo* elliptico, quadrato, apiculato, concavo. *Anthera* terminalis, opercularis, decidua, bilocularis, cristata. *Pollinis massæ* duæ, cereaceæ, subrotundæ, posticè 2-lobæ, per processum communem, basi triangularem, gynizi cavitati summæ connatum cohærentes. *Ovarium* pedicellatum.

The name of this fine genus has been communicated to us by Mr. Brown from his unpublished manuscripts. The various groups of plants constituting a Section in the *Orchideæ* with waxy pollen, to which we have previously had occasion to allude under *Angræcum maculatum* (since published as *Geodorum pictum* by Professor Link), as distinguished by the appendages of the pollen masses, and certain other characters, from the genera with which they have hitherto been arranged, offer so few differences of structure in their columna, that it is perhaps useless to attempt to seize characters for them from that organ. The other parts of the fructification, however, present a great diversity of form and appearance; from which excellent characters may be derived. This is particularly the case with the subject of this article; which, although possessing no striking peculiarities in its columna, is nevertheless decidedly distinguished from the neighbouring genera by the little reflexed outer segments of its flower, and the great, wing-like, spreading inner divisions of it; and by the crested labellum forming a little bag from its union with the base of the columna.

Notwithstanding certain differences in the description of *Satyrium giganteum*, we strongly suspect it is the very same as our plant: at least we feel persuaded that it is a species of *Lissochilus*. Unfortunately there are no specimens of it in the herbaria in London; nor did our friend Mr. Burchell ever meet with it during his residence at the Cape.

The plant from which our figure was taken was imported by Mr. Griffin from the Cape of Good Hope some years since, and produced its flowers, for the first time, in the early part of the last summer. We think, without any exception, it is the finest plant of the order we ever saw alive.

Explanation of the Plate.

1. Columna and labellum. 2. Columna without the labellum. 3. The same seen in front. 4. The same, the anther being removed. 5. A vertical section of the columna. 6. The anther of the bud. 7. The anther after bursting. 8. The pollen masses and their appendage from behind. 9. The same in front.

Dichaea speciosa.

COLLECTANEA BOTANICA.

THE object of this work is to exhibit accurate figures, accompanied by ample botanical illustrations, of the rare, or curious, or otherwise interesting plants which are either now cultivated in the gardens of Great Britain, or which it may be hereafter desirable to introduce. The drawings will be prepared by the author. The plates will contain all the details of the parts of fructification which it may be possible to procure; and it is hoped that, from this circumstance, they will not only be entitled to as high a degree of importance as any illustrative of botanical subjects, in this country, can claim; but, from the ample explanations to be given of them in the text, that they will offer an easy, and at the same time pleasing, introduction to the knowledge of vegetable organization.

To avoid the imputation of forcing upon the world, delineations of vegetables which have been already correctly and completely published by others, it is intended in the present work to figure none which have before appeared in the popular productions of the day, unless for the purpose of explaining some novel fact in their history, or structure, which may render such a measure justifiable. The materials already collected for the use of the work are considerable; and from the assurance he has received of support from his numerous friends in the vicinity of London, the author confidently ventures to anticipate an uninterrupted succession of novelties.

For the convenience of those who may favour the work with communications of sufficient extent to render it desirable, the plan, first proposed by Dr. Hooker in his elegant *Musci Exotici,* will be followed, of heading each page with a running title (such as *Lambertianæ, Cattleianæ, Griffinianæ, &c.*) expressive of the collection from which the subject of it was received. Purchasers will then have an opportunity of binding up the figures of their own plants separately.

To appear in monthly numbers; ten numbers to form a volume; each number to contain five plates in folio, and at least as many corresponding pages of letter-press. Price 8*s.* plain; 12*s.* coloured.

It was originally intended that a few copies should have been prepared with plates more highly finished than those of the common sets: but Subscribers are respectfully informed, that on more mature consideration it has been deemed advisable that this part of the plan should be relinquished. No other copies will therefore be delivered than those at 8*s.* uncoloured, and 12*s.* coloured.

A list of subscribers will be published at the close of the first volume.

Tab. 32.

CYPRIPEDIUM INSIGNE.

Nat. Ord. Cypripedeæ, *Nob.* Linn. Syst. Gynandria Diandria.

CYPRIPEDIUM, *L.* Labellum ventricosum inflatum (nunc saccatum). Columna posticè terminata lobo petaloideo (stamine sterili) antheras distinguente. Petala duo antica sæpiùs connata. *Br. in Hort. Kew.*

Cypripedium acaule, foliis cartilagineis ligulatis scapo piloso dimidio brevioribus, perianthii laciniâ superiore fornicatâ emarginatâ: lateralibus obovatis subundulatis obtusis extùs pubescentibus; inferiore labello venoso basi inflexo paulò longiore.

Cypripedium insigne. *Wallich MSS.*

Descr. *Radices* fibrosæ, pilosæ, fasciculatæ. *Folia* radicalia, disticha, ligulata, cartilaginea, subenervia, scapo dimidio breviora. *Scapus* uniflorus, rectus, teres, pilosus, atropurpureus. *Spatha* anceps, falcata, semifissa, paulò plicata, apice emarginata, viridis, glabra, basi purpureo maculata. *Ovarium* purpureum, pilosum, sulcatum, sessile, rectum, costâ dorsali maximâ, incurvum, spathæ rudimento anticè supposito. *Perianthium* tetraphyllum, patens: *laciniarum exteriorum* superiore latè obovatâ, fornicatâ, nervosâ, viridi, intùs glabrâ, purpureo maculatâ; apice albâ cymbiformi, emarginatâ; inferiore concavâ, ovatâ, labello longiore eique suppositâ, pallidè viridi, intùs ad nervos baseos parcè purpureo maculatâ; *interioribus* extùs pubescentibus, intùs glabris, horizontalibus, obovato-lanceolatis, undulatis, nervosis, purpurascentibus, basi pilis purpureis hirsutis. *Labellum* dependens, calceiforme, viridescens, rotundatum, apicem versus purpurascens, extùs glabrum, intùs pilis purpureis obsitum, medio cordatum, marginibus luteis inflexis. *Columna* directione labelli, lutea, purpureo-pilosa: *anthera sterilis* maxima, scutata, cuneata, dorso unicallosa, anticè per axin cristata, superficie foveolatâ, super gynizum et antheras fertiles incumbens; *antheræ fertiles* ad basin interiorem sterilis sitæ, biloculares: loculis subparallelis, apice confluentibus; *filamenta* obesa, pilosa. *Pollen* udum, tenax, velut mel semi-coagulatum, è granulis parvis, sphæricis, distinctis, et materie viscidâ compositum. *Gynizus* inter antheras pedicellatus, porrectus, rhomboideus, glaber, nervo basin versus furcato.

We received this very beautiful species of *Cypripedium* in November last from Mr. Cattley, to whom it had been transmitted in flower from the Botanic Garden, Liverpool, by Mr. Shepherd, the worthy curator of that institution.

It is obviously a near relative of *Cypripedium venustum,* and is said to be a native of the same country as that plant. It was sent by Dr. Wallich to England with the name we have assigned it, and probably has never flowered before in Europe.

We remember formerly to have seen specimens, very similar to this, of a plant which had been brought from Java by Dr. Horsfield. Possibly it may prove a distinct species; thus adding a third at least to the curious section of *Cypripedium,* of which the present subject forms a part; a section which, as far as we have been able to discover, possesses no artificial character in the fructification by which it can be pronounced a distinct genus, but which nevertheless is so different from that which includes the species natives of more temperate latitudes, that we find ourselves almost compelled to question the universal application of the principle which excludes habit and foliage from the essential parts of generic distinctions. In the present instance we have three plants, probably all very different from each other as species, natives of the same quarter of the globe, with a considerable general similarity in appearance, necessarily, from the absence of certain technical differences assumed to be essential to the goodness of a genus, crowded among others with which the most careless observer would not only not be likely to confound them, but from which he would readily and immediately distinguish them. We confess this is one of those difficulties we do not at present feel competent to solve.

Explanation of the Plate.

1. A section of the Labellum. 2. The column seen in front. 3. The same viewed laterally. 4, 5. The anther seen in different directions.

Tab. 33.

CATTLEYA LABIATA.

Nat. Ord. Orchideæ: Sect. 5. *Br.* Linn. Syst. Gynandria Monandria.

CATTLEYA. Perianthium resupinatum patens: laciniis subæqualibus. Columna libera semiteres, labello eroso cucullato amplexa. Anthera infrà-apicilaris, opercularis persistens, columnæ apice subulato supertecta 4-locularis: septis completis membranaceis marginatis. Massæ pollinis 4 lenticulares per pares filo elastico granulato in ipsis reflexo connexæ.—*Herbæ parasiticæ (Americæ æquinoctialis); bulbis fasciculatis; foliis solitariis carnosis, enervibus; floribus terminalibus geminis grandibus subodoris.*

Cattleya perianthii laciniis exterioribus lineari-lanceolatis acutis, quàm interiores 3-plò angustioribus, labello indiviso.

Descr. *Bulbi* fasciculati, epigæi, oblongi, suboctogoni, vestigiis folii primarii sphacelatis vestiti. *Folia* solitaria, lanceolata, retusa, plana, cartilaginea, enervia, atro-viridia, rubro marginata, ascendentia. *Spatha* duplex; *exterior* maxima, foliorum ferè longitudine, acinaciformis, hinc fissa, colorata; *interior* multoties minor. *Scapus* 1-2-florus, intra spatham inclusus, teres, glaber. *Flores* resupinati, suavissimè lilacini, odori. *Perianthii* patentis *laciniæ 3 exteriores*, lanceolatæ, acuminatæ, *interiores* patentes, ovato-lanceolatæ, margine crispæ, exterioribus multoties latiores. *Labellum* obovatum, cucullatum, carnosum, porrectum, limbi margine eroso, undulato, intùs pulcherrimè luteo et rubro venosum, versus apicem intensè purpureum. *Columna* directione labelli, libera, semiteres, clavata, alba, ultra cardinem antheræ posticè in apiculo in antheram incumbente elongata, anticè bicornis. *Anthera* gibba, 4-locularis, septis membranaceis, undulatis, completis; in singulo loculo jacet massa pollinis una, lenticularis, coriacea, integra, per processum filiformem, granulatum, in ipsâ deflexum in clinandrio incumbens. *Gynizus* cavus, secernens, apice retuso, luteolo, deorsùm flexo ad antheram recipiendam. Rarò (vide fig.) è basi anteriore gynizi producitur processus subulatus enervis, versus apicem luteolum tendens.

This is another of the fine Orchideous plants that were collected with our *Oncidium barbatum* by Mr. Swainson in the Brasils, and sent by him to Dr. Hooker. Our drawing was made by Mr. Curtis from a specimen which flowered in Mr. Cattley's stove last November. Without exception, it is the handsomest species of the order we have ever seen alive: and we have on that account the greater pleasure in publishing it, as it has given us an opportunity of paying a compliment to a gentleman, whose ardour in the collection, and whose unrivalled success in the cultivation, of the difficult tribe of plants to which it belongs, have long since given him the strongest claims to such a distinction. The only other species of the genus with which we are acquainted, is one which has been published by Mr. Loddiges, with the name of *Epidendrum violaceum*. We propose to call it *Cattleya Loddigesii*, and to define it thus:—

Cattleya (*Loddigesii*) perianthii laciniis subæqualibus obtusis, labelli trilobi lobo medio sellæformi.

Epidendrum violaceum. *Loddiges Bot. Cab. 337.*

The only genus with which it is necessary to compare *Cattleya*, is *Broughtonia* of Mr. Brown, which agrees with it in many important particulars, but is essentially distinguished by its labellum being produced into a spur, connate with the ovarium. The habit of the two genera is also somewhat different.

Among the figures of Orchideous genera in the *Flora Peruviana*, is one called by the authors of that work *Sobralia*; which in general appearance bears so much resemblance to *Cattleya*, that we formerly believed them to be the same. Fortunately, however, specimens of *Sobralia* from Pavon exist in Mr. Lambert's invaluable herbarium, which we have been liberally permitted to analyse. It proves to be a genus different from any before published; and may be distinguished by the following characters, obtained from *S. dichotoma*.

Sobralia, *Ruiz et Pav.*

Perianthium resupinatum patens laciniis subæqualibus. Columna libera semiteres labello cucullato amplexa. Anthera terminalis opercularis persistens 2-locularis: septis carnosis. Massæ pollinis ——. *Herbæ (Americæ æquinoctialis) terrestres virgatæ, foliis vaginantibus nervosis acutis. Flores terminales, sæpius racemosi.*

We possess specimens, sent by Dr. Wallich from Nepal, of two plants resembling *Cattleya* in habit, but in fact more nearly related to *Cymbidium*, in which it is probable that some similar species are included; they are, however, to be distinguished from that genus by having an unilocular anther inserted below the summit of a winged column; and in their peculiar gynizus, which is precisely the same as that of *Arethusa, Calopogon*, &c. Their habit too is totally dissimilar to *Cymbidium*, of which *C. sinense* must be considered the type. We therefore would consider them a distinct genus, which may be called *Cælogyne*, with the following characters.

Cælogyne.

Perianthium resupinatum patens. Labellum trilobum cucullatum cum columna articulatum. Columna alata ultra antheram producta. Anthera lateralis opercularis unilocularis. Massæ pollinis duæ bipartitæ. Gynizus infundibularis bilabiatus. *Herbæ parasiticæ (Indiæ orientalis) bulbosæ; foliis coriaceis glabris nervosis. Flores pauci racemosi e spathâ squamosâ radicali.*

1. Cælogyne (*punctulata*) bulbis fasciculatis, foliis lanceolatis basi attenuatis, perianthii laciniis lanceolatis crebrò punctatis, labelli lobo medio acuto: cristâ oboletâ.
   Hab. In Nepaliâ, *Wallich.* (*v. s. sp.*)
2. Cælogyne (*cristata*) caudice serpente, bulbis solitariis, foliis lineari-lanceolatis, perianthii laciniis labellique lobo medio obtusis: cristâ fimbriatâ.
   Hab. In Nepaliâ, *Wallich.* (*v. s. sp.*)

? 3. Cymbidium nitidum, *Wallich.*

Explanation of the Plate.

1. Columna seen in front. 2. The same from behind. 3. The same from the side. 4. The same in front without the anther. 5. A longitudinal section of the last. 6, 7, 8. Various views of the anther. 9, 10. Pollen masses.

Tab. 34.

CHLIDANTHUS FRAGRANS.

NAT. ORD. Amaryllideæ. LINN. SYST. Hexandria Monogynia.

CHLIDANTHUS, *Herbert.* Perianthium infundibulare sub-irregulare : laciniis ovalibus patentibus. Stamina recta inclusa tubi apice basibus subconnatis inserta inæqualia ; brevioribus laciniis externis oppositis. Filamenta longiora subulata : breviora bidentata. Antheræ innatæ. Ovarium 3-loculare polyspermum : ovulis compressis distichis. Stylus filiformis directione staminum. Stigma trilobum. Capsula subcartilaginea 3-valvis. Semina membranacea marginata. *Herbæ Chilenses, floribus luteis præcocibus, foliis linearibus*

Chlidanthus fragrans. *Herbert's Appendix, p.* 46.
Clinanthus luteus. *Ibid. p.* 40.
Pancratium luteum. *Pavon in Herb. Lambert.*

DESCR. *Folia* linearia, graminea, lætè viridia, serotina. *Scapus* præcox, sesquipedalis, pauciflorus. *Flores* lutei, sessiles, subodori, spathâ inclusi 1-2-valvi, ovatâ, ipsis dimidio breviore. *Perianthium* infundibulare, sub-irregulare, tubo longo, gracili, subcurvo ; *laciniis* eo triplò brevioribus, patentibus, *interioribus* ovalibus retusis, *exterioribus* ovatis mucronatis. *Stamina* 6, recta, inclusa, inæqualia, *filamentis* laciniis exterioribus oppositorum subulatis, integris, alternorum brevioribus bidentatis. *Antheræ* oblongæ, innatæ. *Ovarium* 3-gonum, 3-loculare, polyspermum, ovulis compressis, distichis. *Stylus* filiformis, staminibus longior. *Stigma* 3-lobum. *Capsula* (quam comminutam tantùm vidimus) 3-valvis, subcartilaginea. *Semina* brunnea, membranacea, marginata.

For an opportunity of making a drawing of this plant, we are indebted to Mr. Brookes of Ball's Pond, in whose stove it flowered last summer immediately after its importation. It is singular that bulbs of so curious a plant should have been received in England for the first time at the very same period by Lord Carnarvon and Mr. Brookes. By the latter they are said to have been procured from Chili, and by Lord Carnarvon from Buenos Ayres. The inflorescence was produced before the leaves, which are slender and bright green : that the latter do not appear upon our plant, is owing to our having had no opportunity of adding them to our drawing since it was originally made. The bloom is very fragrant, resembling in scent the Common Jonquil.

As a genus it seems nearly related to the New Holland *Calostemma,* from which it is chiefly distinguished by its polyspermous capsule and membranous winged seeds.

So little is known of the plants which have been called *Stenomesson* by Mr. Herbert, that we scarcely know how to discover any very decided line of difference between them and *Chlidanthus.* From the imperfect examination we have been able to give to Mr. Lambert's specimens, although we may be disposed to consider them likely to prove sufficiently distinct, *Calostemma* nevertheless creates considerable doubt in our mind of the value of the "Nectarium dentatum filamenta connectens," which seems the only character by which they are at present separated. Mr. Griffin is in possession of a plant from South America, which has never flowered with him, of which the leaves are glaucous, not bright green ; but in other respects very similar to *Chlidanthus.* We are disposed to think it may form another species of this genus.

The South American specimen sent to Mr. Lambert by Pavon, from which Mr. Herbert formed his genus *Clinanthus,* appears to us to be only a weak specimen of this, which, when it afterwards flowered with Mr. Brookes, Mr. Herbert probably did not recognise ; since we find it again described, with no reference to the genus which had been previously made from it, under the name of *Chlidanthus fragrans,* which we have adopted.

EXPLANATION OF THE PLATE.

1. A flower cut open. 2. The ovarium and style. 3. The ovarium opened so as to show the ovules.

Chlidanthus fragrans

Tab. 35.

DIGITALIS LUTEA, ε.

NAT. ORD. Scrophularinæ. LINN. SYST. Didynamia Angiospermia.

DIGITALIS, *Linn.* Calyx 5-sepalus. Corolla infundibularis, 2-labiata. Antheræ nudæ, 2-loculares; loculis parallelis. Discus 0. Stigma 2-lamellatum. *Lindley Digital. Mon. p.* 6.

Digitalis (§ 3.) foliis lanceolatis dentatis glabris, racemo secundo, corolla glabra: laciniis ovatis barbatis, bracteis inferioribus floribus longioribus. *Lind. l. c. p.* 23.

ε. vittata, *floribus viridi-lutescentibus: venis coloratis.*

At the time we published our *Digitalium Monographia,* there were a few plants which had been noticed by European botanists, of which we had been unable to procure authentic specimens. Among these was a kind described by Roth, in his *Catalecta Botanica,* under the name of *Digitalis media,* which we referred, from the accurate description he has given of it, to the *D. ambigua* of Murray; conceiving that the few differences in Roth's description between *D. media* and *ambigua* were only such as accidental circumstances in cultivation might have occasioned. Of this opinion we still remain; notwithstanding the citation by Roth, of a representation in Lobel, of a branch of what we cannot distinguish from *Digitalis lutea* in seed. Mr. Ferdinand Bauer, however, having recently sent Mr. Cattley the annexed drawing of what he conceives to be the true *D. media,* we feel ourselves bound in justice to him to publish it. We may add, that the synonyms quoted by Roth to his *D. media,* particularly those of "D. major lutea s. pallida, parvo flore, *C. Bauh. pin.* 244," and "D. flore minore, sub-luteo, angustiore folio, *J. Bauh. hist.* 2. 814," although they appear to belong to *D. lutea,* by no means prove his *D. media* to be of that species, because the description he has given of it is materially at variance with those synonyms in many important particulars.

EXPLANATION OF THE PLATE.

1. Flowers the natural size. 2. A Corolla opened and magnified. 3. Anthers unexpanded. 4. The same burst. 5. Ovarium natural size. 6. The same magnified, with the calyx. 7. Part of the style and stigma magnified.

Tab. 36.

MURUCUJA BAUERI.

NAT. ORD. Passifloreæ, *Juss.* LINN. SYST. Monadelphia Pentandria.

MURUCUJA, *Tourn., Juss.* Calyx Passifloræ coloratus, urceolo prætereà subtùs sulcato. Corona interior non multipartita et triplex, sed simplex indivisa erecta tubuloso-conica truncata circa germinis stipitem connivens. *Cætera omnino ut in Passiflorâ. Juss. gen. plant.* 398.

Murucuja foliis trilobis subtùs sparsim glandulosis: lobis oblongis retusis medio productiore, bracteis stipulisque setaceis, radiis filiformibus coronâ plicatâ longioribus, disco 5-lobo.

DESCR. *Caulis* volubilis, subangulatus, glaber. *Stipulæ* setaceæ. *Folia* triloba, retusa, venosa, lobis oblongis, subundulatis: medio productiore, subtùs glandulis sparsis; *pedunculi* graciles apice glandula 1, reniformi, v. nullâ. *Flores* solitarii, axillares, primùm pallidi, albi, demùm aurantiaci. *Bracteæ* setaceæ. *Calycis tubus* urceolatus, pentagonus; *laciniæ* carinatæ, inæquales, subundulatæ, apice obtusæ, extùs virides margine aurantiaco. *Petala* æqualia, patentia, plana, subundulata. *Radius* multipartitus, sanguineus, serie simplici, coronâ longior. *Corona* conica, plicata, apice fimbriata. *Discus* 5-lobus, ad basin stipitis. *Fructus* sanguinei, ovati, carnosi, uniloculares, polyspermi. *Semina* oblonga, cristata, foveata, arillo carnoso luteo inclusa.

The drawing from which we have been permitted by the Council of the Horticultural Society to copy our representation of this fine plant, forms part of a magnificent illustration of the order *Passifloreæ,* of which Mr. Ferdinand Bauer has commenced the execution. It was found by himself in Norfolk Island, during the expedition under Captain Flinders, sent by the Government of this country to examine the coasts of New Holland. We feel great satisfaction in honouring it with the name of a botanist who is not less distinguished by his scientific acquirements, than by the consummate skill he possesses in the art of botanical drawing; of which the *Flora Græca* of Dr. Sibthorp, the figures appended to the *Atlas of Captain Flinders's Voyage,* his own *Illustrationes Floræ Novæ Hollandiæ,* and our *Digitalium Monographia,* afford the most abundant proofs.

There are two species of *Murucuja* already published under the names of *Passiflora adiantifolia* and *P. aurantia,* which have considerable resemblance to this species; and there are said to be several undescribed ones from the same quarter of the world with nearly similar features. From *Murucuja adiantifolia,* its leaves without side lobes, its corona with numerous plicatures, the length of the radial divisions, &c. distinguish it. From *Murucuja aurantia,* it appears from specimens in the Banksian Herbarium, and from Forster's unpublished drawings in the same collection, to be distinguished by the shortness of the rays of that species, and the less degree of bluntness of its leaves: it also seems that the segments of the calyx are more winged towards their base.

We have no hesitation in adopting the genus *Murucuja* of Tournefort and Jussieu; and we are confirmed in our opinion of the propriety of doing so, by finding that our friend M. De Candolle intends to preserve it in his Monograph of the order which will appear in the next volume of his elaborate *Regni vegetabilis Systema naturale.* We are ourselves disposed to think that *Passiflora,* as it at present stands, is susceptible of being divided into several genera, or, at least, that the structure of those curious modifications of petals which, under the form of rays, corona, operculum, &c. contribute the greater part of its beauty to the flower, will afford much better characters for division than those from the leaves, which have hitherto been generally adopted. *Passiflora perfoliata* is certainly a very strong genus, distinguished by its abbreviated ray and corona bent downwards, so as to line the sides of the interior of the tube of the calyx. In fact, it is more nearly related to *Tacsonia* than either to *Murucuja* or to *Passiflora.*

EXPLANATION OF THE PLATE.

1. Section of a flower. 2. The corona laid open, showing the discus. 3, 4. Stigma. 5. Transverse section of the fruit. 6. Seed in the arillus. 7. Seed deprived of its arillus. 8. Section of the latter.

Ferd. Bauer del.

Harrison Bauer.

Tab. 37.

CATTLEYA LODDIGESII.

NAT. ORD. Orchideæ ; *Tribus* Epidendreæ. LINN. SYST. Gynandria Monandria.

CATTLEYA, *Nobis suprà, t. 33.*

CATTLEYA, perianthii laciniis subæqualibus obtusis, labelli trilobi lobo medio sellæformi. *Nob. suprà, t. 33. in textu.*
Epidendrum violaceum. *Lodd. Bot. Cab. t. 337.*

DESCR. *Bulbi* elongati, teretiusculi, subangulati, squamis 2 albidis vestiti. *Folia* bina, coriacea, glabra, avenia, oblonga, erecto-patentia. *Spatha* oblonga, marginibus accretis tubulosa. *Scapus* 4—6-uncialis, teres, maculatus. *Flores* 1—3 in summo scapo, maximi, speciosi ; bracteâ ad basin ovarii parvâ, corrugatâ. *Ovarium* 1½ unciale, teres, ecostatum, sursùm arcuatum, maculatum. *Perianthium* explanatum, dilutè lilacinum, ultrà 2 menses floridum, immarcidum. *Sepala* oblonga, obtusa, subundulata, passim punctis parvis sparsis atrioribus maculata : interiora paulo latiora. *Labellum* 1½ unciale, circà columnam cucullatum, trilobum : lobis fimbriatis crispis, intermedio paulo lacero convexo sellæformi, striis 5 per axin. *Columna* clavata, arcuata, labello brevior, anticè concava, utrinque marginata, clinandrii dorso breviter cornuto. *Gynizus* obcordatus, excavatus, muticus, viscosus, apice ovato obtuso. *Anthera* terminalis, opercularis, supernè per axin depressa, carnosa, 4-locularis, loculis completis : marginibus sphacelatis undulatis. *Pollinia* 4, cereacea, compressa ; quodque filo ligulato granulato, in seipso reflexo.

At the time we were first acquainted with this genus, the subject of the accompanying plate was the only species of which we had any information. It even then appeared to be essentially distinct from *Broughtonia* both in habit and artificial characters. When, at a subsequent period, the rare Brazilian plant which has been published at tab. 33 of this work was submitted to examination, it obviously offered such striking generic resemblances to the first, and at the same time so many beautiful specific differences, that we no longer hesitated to establish upon the two a new genus, which was called *Cattleya*. Since that time a third species, from the same country, perfectly agreeing with the first two kinds in the characters assigned to the genus, but differing as much from them, as they from each other, and having *yellow* flowers, has been sent to the Horticultural Society from Rio Janeiro by the late Mr. Forbes, in compliment to whom we have named it

Cattleya (*Forbesii*) ; foliis oblongis obtusis planis, sepalis lanceolatis subæqualibus : interioribus angustioribus undulatis obtusis, labelli trilobi lobo medio cordato lunato argute dentato apice saccato,

HAB. Rio Janeiro in truncis arborum emortuorum epiphyta.

A fourth species of *Cattleya* (*C. citrina,* Nob.) is the *Sobralia citrina* of M. de la Llave.

At the time the genus *Cattleya* was under consideration, it became necessary to examine such other *Orchideæ* as appeared to be related to it. The consequence of which was the establishment (from dried specimens) of the genus *Cœlogyne,* which a subsequent examination of living plants has confirmed in all material points. To that genus it was not at that time thought advisable to refer the *Epidendrum præcox* and *humile* of Sir James Smith, because, from want of sufficiently perfect materials, we did not possess the necessary means of ascertaining the nature of those organs by a knowledge which our judgement would have been directed. Lately, however, a genus called *Pleione* has been proposed for the two species under consideration, and the number of their pollen masses has been stated to be two. But upon an examination of very perfect specimens of *Epid. humile* in our friend Dr. Hooker's herbarium, we find that the pollen masses are four cohering by pairs, and not two. Their columna is also distinctly winged, and the anther is inserted below the membranous end of the columna ; thus no points of difference whatever can be said to exist between them and *Cœlogyne,* which now consists of the following published species, all natives of Asia : viz.

CŒLOGYNE. *Suprà, fol. 33.*

* *Species certissimæ.*

1. C. punctulata. *Supra l. c.*
2. C. cristata. *Supra l. c.*
3. C. fimbriata. *Lindl. in Bot. Regist. t.* 868.
4. C. præcox.
   - *Epidendrum præcox.* Smith Exot. Bot. t. 97.
   - *Cymbidium præcox.* Smith in Rees. in loc.
   - *Pleione præcox.* Don prodr. nep. 37.
5. C. humilis.
   - *Epidendrum humile.* Smith Exot. Bot. t. 98.
   - *Cymbidium humile.* Smith in Rees. in loc.
   - *Pleione humilis.* Don prodr. nep. 37.

** *Species minùs certæ.*

6. Cymbidium nitidum. *Wall.*
? 7. Cymbidium strictum. *Don.* (forte eadem ac *Cœl. cristata.*)
? 8. Cymbidium speciosissimum. *Don.* (forte eadem ac *Cœl. punctulata.*)

EXPLANATION OF THE PLATE.

1. A side view of the columna. 2. A front view of the same. 3. The upper part of the same with the anthera removed. 4. The anther seen from beneath, with pollen masses in it. 5, 6, 7. Other views of the anther. 8. Two pollen masses seen in front. 9. A single pollen mass seen laterally.

Cattleya Skinneri.

Lucas multiflora

Tab. 38.

VANDA MULTIFLORA.

NAT. ORD. Orchideæ : *Tribus* Vandeæ. LINN. SYST. Gynandria Monandria.

VANDA, *Brown, in Bot. Reg. fol.* 506. Pollinia 2 cereacea posticè sulcata : caudiculâ lineari diaphanâ inclusâ. Anthera terminalis opercularis decidua 2-locularis apiculata. Stigma excavatum : rostello truncato. Columna teres libera. Labellum subintegrum carnosum saccatum cum columna non unguiculatum sepalis subconforme. Perianthium carnosum.—Herbæ *caulescentes epiphytæ* (Indiæ orientalis *et* Chinæ); radicibus *caulinis tortuosis;* foliis *distichis coriaceis ;* spicis *erectis foliis oppositis ;* floribus *luteis v. violaceis maculatis.*

VANDA, foliis ligulatis coriaceis apice retusis apiculatis, spicis paniculatis erectis multifloris, sepalis conniventibus oblongis obtusis labelloque subæqualibus.

DESCR. *Herba* epiphyta, caulescens, 1—2-pedalis, *caule* simplice, erecto, rigido, per vaginas foliorum radices paucos, rigidos, quandoque ramosos, teretes, albo-virides, apice glaberrimos emittente. *Folia* horizontalia, 6—8 uncias longa, ligulata, coriacea, avenia, costata, basi vaginantia, apice obtusa, apiculata, æqualia ; inferioribus brevioribus apice valdè obliquis. *Spicæ* compositæ, multifloræ, ex apice vaginæ exsertæ, erectæ, sæpius foliorum longitudine : *ramis* angulatis, basi bracteâ parvâ, scariosâ, persistente suffultis. *Flores* lutei, sanguineo-vittati, inodori, diu persistentes ; ovariis rectis basi bracteolatis. *Perianthium* carnosum : *sepalis* subæquilongis obtusis oblongis ; interioribus angustioribus et pallidioribus. *Labellum* rigidum, carnosum, patens, non cum columnâ articulatum, sepalis subconforme, basi saccatum : sacco intus glabro inappendiculato; laminâ ovatâ medio sulcatâ, lobis lateralibus rigidis, dentiformibus, abbreviatis. *Columna* obesa, teres, purpurea, truncato-conica : clinandrio plano immarginato. *Stigma* subrotundum, excavatum, totam faciem superiorem columnæ occupans. *Anthera* terminalis, opercularis, bilocularis, transversa, apiculata. *Pollinia* duo, cereacea, posticè lobata : *caudiculâ* lineari, apice antheræ supertectâ ; *glandulâ* subrotundâ.

This plant has much affinity with the *Epidendrum præmorsum* of Roxburgh, from which it is principally distinguished by its more robust mode of growth and by the termination of its leaves, which are rounded at the end with a little point, not abruptly truncate so as to exhibit the appearance of having had their extremity bitten off. The flowers also appear to be produced in greater abundance in *V. multiflora* than in *V. præmorsa.*

This species is a native of China. The drawing from which the accompanying plate has been engraved, was made from a fine plant in Mr. Cattley's conservatory, in July 1822. Like others of its tribe it also blossoms in most of the summer months.

The genus *Vanda* is exceedingly difficult to confine within definite limits ; the species varying much in the structure of certain parts of their flower, and exhibiting striking marks of affinity in others. But an attentive consideration of those principles of analysis which caused *Vanda* to be separated from *Aerides,* has brought us to the conclusion that *Vanda Roxburghi,* the subject of this article, *Epidendrum præmorsum* of Roxburgh, and such others as may hereafter be found to agree with them in the characters proposed at the head of this page, are the only genuine species of the genus ; and that consequently *Vanda teretifolia* of this work, and some other plants now referred to *Vanda,* must be excluded.

EXPLANATION OF THE PLATE.

1. A flower seen in front. 2. A side view of the same, after the sepals and anthers have been removed, to exhibit the columna and labellum. 3. A front view of the columna, showing the pollen masses in their place. 4. The anther seen from beneath.

Tab. 39. A.

IONOPSIS UTRICULARIOIDES.

Nat. Ord. Orchideæ; *Tribus* Vandeæ. Linn. Syst. Gynandria Monandria.

IONOPSIS, *Kunth in Humb. et Bonpl. Nov. Gen. et Sp. Pl.* 1. 348. (Iantha, *Hooker Exot. Fl. t.* 113.) Pollinia 2 cereacea postice sulcata: caudiculâ lineari tectâ; glandulâ obovatâ. Anthera terminalis opercularis decidua 1-locularis rostrata. Stigma obcordatum excavatum: rostello cuspidato. Columna aptera semiteres. Labellum sepalis multo majus, basi calcaratum: ungue bicalloso columnâ parallelo. Sepala conniventia: duobus exterioribus lateralibus basibus approximatis cum basi labelli connatis.—Herbæ *epiphytæ* (Americæ æquinoctialis) *non bulbosæ;* foliis *enervibus;* scapis *terminalibus;* floribus *pallidis paniculatis.*

Ionopsis, foliis lanceolatis discoloribus, scapo paniculato multifloro, labello bilobo cuneato: calcare integro.
Epidendrum utricularioides. *Swartz. Prodr.* 122.
Dendrobium utricularioides. *Swartz. Nov. Act. Ups.* 6. *p.* 83. *Willd. Sp. Pl.* 4. 133. *Pers. Syn.* 2. 522.

Descr. *Herba* parasitica acaulis. *Folia* circiter 4, disticha, lanceolata, subcomplicata, coriacea, subenervia, discolora, scapo breviora, cum basibus suis articulata. *Scapus* erectus, filiformis, teres, biramis, coloratus, glaberrimus. *Panicula* flexuosa, pauciflora, floribus erectis, albis, rubido tinctis. *Bracteæ* minimæ, ovatæ, sphacelatæ. *Ovarium* teres, subangulatum, basin versus attenuatum. *Perianthium* connivens, sepalorum exteriorum superiore recto, parvo, oblongo, obtuso, lateralibus labello suppositis et suboccultis, carinatis, antice basibus saccatis approximatis cum basi saccato labelli connatis; interioribus obtusis, erectis, oblongis, superiore paulo longioribus, margine altero sepalo superiori appresso, altero labelli ungui extus adhærente. *Labellum* sepalis multo majus, limbo albo cuneato bilobo patente, ungue plano basi saccato, faciei columnæ applicito, subbarbato, in medio callis duobus conicis subincurvis. *Columna* ungue labelli duplo brevior, semiteres: *stigmate* excavato sursùm repando, ferè totam faciem columnæ occupante. *Anthera* terminalis, opercularis, decidua, 1-locularis, subcarnosa, antice in rostro brevi obtuso producto. *Pollinia* 2, globosa, postice biloba: caudiculâ planâ, oblongâ, glandulæ obovatæ brunneæ stigmatis affixâ.

This plant is a native of the West Indies. Our drawing was made from an individual which flowered in a stove in the Horticultural Society's garden at Chiswick, in May 1824. It had been sent to the Society by His Excellency Sir R. Woodford the Governor of Trinidad.

When the genus *Ionopsis* was proposed by M. Kunth, one certain species only was known; and from the character attributed to it from an examination of dried specimens, it appeared nearly related to *Oncidium,* to which in fact it was subsequently referred by Dr. Meyer. It proves however, upon a view of living plants, to be a very curious and distinct genus, differing from *Dendrobium* and its allies in having a calcarate labellum and only two pollen masses, and from all the calcarate *Vandeæ,* in the union of the front sepals with the labellum.

Besides the subject of this article and the *Ionopsis pulchella* of Kunth, we believe the *Dendrobium testiculatum* of Swartz is referable hither. The *Iantha pallidiflora* of Professor Hooker is represented with flowers so much larger than those of *I. utricularioides,* that it is not safe to quote it as a synonym.

Explanation of the Plate.

1. A flower seen laterally. 2. The stigma and anther. 3. The pollen masses and appendages.

Fig. A. Jonopsis utricularioides.

Fig. B. Sarcanthus rostratus

Tab. 39. B.

SARCANTHUS ROSTRATUS.

Nat. Ord. Orchideæ: *Tribus* Vandeæ. Linn. Syst. Gynandria Monandria.

SARCANTHUS. Pollinia 2, cereacea, posticè sulcata v. lobata: caudiculâ variâ. Anthera bilocularis. Stigma excavatum v. quadratum: rostello vario. Columna semiteres inappendiculata. Labellum subintegrum difforme cum columnâ articulatum, calcaratum: calcare intus appendiculato. Sepala patentia subæqualia.—Herbæ *epiphytæ* (Indiæ orientalis *et* Chinæ) *caulescentes;* radicibus *caulinis tortuosis;* foliis *distichis planis v. teretibus;* floribus *vittatis v. fasciatis;* racemis *foliis oppositis.*

Sarcanthus, foliis lanceolatis planis subrecurvis, spicâ simplice horizontali foliis subæquali, sepalis ovalibus patentibus subæqualibus, labello antherâque rostratis.

Descr. Epiphyta, ramosa. *Caules* crassi, purpurei, teretes. *Folia* lanceolata, carnosa, subrecurva. *Spica* pedunculata, oppositifolia, horizontalis, foliis subæqualis. *Ovarium* teres, album. *Sepala* patentia, æqualia, ovalia, lutescentia, rubro-vittata. *Labellum* carnosum, amœne purpureum, calcaratum, apice rostratum, incurvum; *calcar* obtusum, ovario brevius, intus 1-loculare, anticè valdè carnosum *appendice* operculari glabro simplice. *Columna* erecta, clavata, semiteres. *Stigma* subrotundum, excavatum, rostello in rostro longo producto. *Anthera* conformis, bilocularis. *Pollinia* 2, biloba; *caudiculâ* subulatâ elongatâ; *glandulâ* parvâ.

Under *Vanda multiflora* it has been attempted to show the necessity of separating from the genus *Vanda* certain species hitherto referred to it, and among others the *V. teretifolia* of this work. They differ from *Vanda* in the form and structure of their labellum, which is never saccate, but has always a spur with one or more appendages in its inside, in the texture of their perianthium, and in habit. The plants which agree with *Sarcanthus* as above defined are *Vanda teretifolia* and *paniculata,* an unpublished species (*Sarcanthus succisus*) from China, and probably some plants at present referred to *Aerides. Vanda trichorhiza* of Hooker (which is nearly allied to, if not the very same as, *Epidendrum triste* of Forster), and *Aerides Arachnitis* of Swartz, appear to be species of *Cymbidium,* a genus which differs from *Vanda* in scarcely any thing beyond the absence of a spur from the lip, and in the articulation of the latter with the columna.

A native of China, whence it was imported by the Horticultural Society in 1821. Our figure was made in the month of June 1822, from a plant in the possession of Wm. Cattley, Esq.

Explanation of the Plate.

1. Flower seen in front. 2. A side view of the columna and labellum. 3. A section of the labellum. 4. The anther and pollen masses as they lie in the clinandrium. 5. The pollen masses &c. separate.

Tab. 40.

CATASETUM HOOKERI.

Nat. Ord. Orchideæ ; *Tribus* Vandeæ. Linn. Syst. Gynandria Monandria.

CATASETUM, *Richard.* Pollinia duo, posticè biloba v. sulcata : caudiculâ maximâ denudatâ transversâ demum elasticè contractili ; glandulâ cartilagineâ subquadratâ. Anthera sub-bilocularis anticè truncata. Stigma excavatum. Columna aptera anticè utrinque bicirrhosa. Labellum carnosum galeatum v. explanatum, basi saccatum, obscurè trilobum. Sepala sæpiùs in globum conniventia ; quandoque patentia.—Herbæ *epiphytæ* (Americæ æquinoctialis) *bulbis ovatis vestigiis foliorum vestitis.* Folia *basi vaginantia plicata.* Scapi *radicales.* Flores *magni virides v. viridi-purpurei.*

Div. I. *Perianthium globosum. Labellum saccatum galeatum.* Lindl. in Bot. Reg. 840.

Catasetum, racemo foliis trinervibus altiore, labelli lobo medio incurvo retuso : lateralibus erectis dentatis, sepalis ovalibus acutis nervosis in globum conniventibus.

C. Hookeri. *Lindl. l. c. in textu.*

We have long waited for an opportunity of examining this singular plant in a living state ; but we regret to say without success. The annexed drawing was made by Dr. Hooker from a plant sent from the Brazils by Mr. Swainson, and which flowered in the stove of his garden at Halesworth, in 1818. We are not aware that it has blossomed since that time, and we can give no description of it beyond that which might be obtained from the excellent representation now published.

This is remarkably different from any of the species enumerated in the Botanical Register.

The *Anguloa lurida* described by Professor Link in the Transactions of the Prussian Horticultural Society, vol. i. p. 289. with a figure, is very nearly related to *Catasetum Hookeri,* from which it appears to be distinguishable only by its many nerved leaves, and by the absence of denticulations from the side lobes of the labellum. There is some little difference in the colour and form of the labellum of that species.

Of this genus, the second section, which is constituted of one species only, *C. cristatum,* differs materially from the first in not having a saccate galeate labellum ; but in its room an expanded labellum covered over with numerous fleshy processes, with a little bag at its base. The plant differs little otherwise from the species with a galeate labellum, so that we do not think it advisable for the present to assign it a station as a distinct genus on that character alone. It is, however, far too important an aberration from the form of *Catasetum* to be united with that genus otherwise than as a distinct section. We observed in the garden of the Horticultural Society a spike of *Catasetum cristatum,* in which a few of the flowers had entirely lost the crested expanded form of the labellum, and had perfectly assumed the galeate labellum of *C. tridentatum* ; a most remarkable monstrosity, like which we have seen nothing in any other tribe of plants.

Are not *C. tridentatum, Claveringi* and *floribundum,* varieties of each other ? or at least the two last ?

Explanation of the Plate.

1. A flower in front. 2. The same behind. 3. A flower with the sepals spread open. 4. A side view of the labellum. 5. A section of the labellum. 6. The columna. 7. The anther. 8. The pollen masses.

Catasetum Warreri.

Tab. 41. A.

TRIBRACHIA REPTANS.

Nat. Ord. Orchideæ; *Tribus* Malaxideæ. Linn. Syst. Gynandria Monandria.

TRIBRACHIA, *Lindl. in Bot. Reg. t.* 832, *in textu.* Pollinia 2 cereacea posticè sulcata : caudiculâ et glandulâ 0. Anthera terminalis opercularis decidua semibilocularis membranacea. Columna apice bicirrhosa. Labellum posticum integrum cum basi productâ columnæ unguiculatum. Sepala patentia : lateralibus exterioribus cum basi columnæ connatis ; interioribus nanis.—Herbæ *epiphytæ, acaules, bulbosæ* (Asiæ temperatæ *et* Africæ æquinoctialis) ; caudicibus *reptantibus ;* scapis *radicalibus ;* floribus *parvis.*

Tribrachia, foliis lineari-lanceolatis solitariis, spicis secundis foliis brevioribus.

Descr. *Caudex* reptans, teres, articulatus, glaber, squamarum vestigiis vestitus. *Bulbi* solitarii, distantes, ovati, arcuati, seniles glabri, vegeti squamarum vestigiis fibrosis vestiti. *Folia* solitaria, lineari-lanceolata, erecta, breviter petiolata. *Spica* radicalis, erecta, filiformis, squamis ovato-lanceolatis vaginata. *Flores* parvi, glaberrimi, suberecti. *Perianthium* sæpiùs rectum, patens, sepalis exterioribus e basi latâ lineari-lanceolatis, acuminatis, lateralibus ad basin cum columnâ productâ connatis ; interioribus nanis, ellipticis, obtusis. *Labellum* nanum, carnosum, ovatum, integrum, cum basi productâ columnæ unguiculatum, et in eam pronum. *Columna* parva, marginibus tumidis sursum in cirrhis duobus desinentibus posticè dentatis. *Stigma* planiusculum : rostello ovato. *Anthera* terminalis, opercularis, pseudo-bilocularis, membranacea. *Pollinia* 2, subglobosa, posticè sulco exarata, demum in granulis quaternatis solubilia, caudiculâ et glandulâ nullis.

The genus *Tribrachia,* some species of which have been referred by Sir James Smith to *Stelis,* is nearly related to *Pleurothallis,* from which it is distinguished by its pollen masses being furrowed behind, by the two cirrhi of the columna, by the manner in which the two exterior lateral sepals, and the labellum which is always posterior, are united with the columna, and finally by its radical not terminal inflorescence. The subject of this plate is a native of Nepal, whence specimens have been communicated to us by Edward Rudge, Esq. Another genus resembling this in habit, which may be called *Sunipia* on account of the resemblance it bears to the *Sunipiang* of the Nepalese, has four pollen masses, each pair being furnished with a separate caudicula. It has also a sessile labellum not attached to the lengthened base of the columna.

The following are the only species of *Tribrachia* of which we have any certain knowledge :—

Tribrachia.

* *Species certissimæ.*

1. T. reptans. *Nob. in hoc loco.*
   Hab. in Nepaliâ. (*v. s. sp.*)
2. T. odoratissima.
   Stelis odoratissima. Smith in Rees in l.
   Stelis caudata. Don prodr. nep. 32 ?
   Hab. in Nepaliâ. (*v. s. sp. in herb. Hooker.*)
3. T. hirta.
   Stelis hirta. Smith in Rees.
   Hab. in Nepaliâ. (*v. s. sp.*)
4. T. purpurea ; foliis . . . . . ., squamis scapi membranaceis ventricosis, spicâ densâ multiflorâ, bracteis membranaceis floribus æqualibus, sepalis 2 interioribus tenuibus aristatis.
   Pleurothallis purpurea. Don prodr. nep. 33.
   Hab. in Nepaliâ. (*v. s. sp. in herb. Hooker.*)
5. T. pendula ; foliis ovalibus subtus discoloribus apice inæqualibus emarginatis in bulbis ovatis compressis solitariis, scapis pendulis, spicis imbricatis, sepalis ovatis acuminatis : interioribus obovatis.
   Hab. in S. Leonâ. (*v. v. cult.*)

** *Species incertæ.*

? 6. Stelis racemosa. *Smith in Rees.*
   Hab. in Nepaliâ.
? 7. Stelis biflora. *Smith in Rees.*
   Hab. in Nepaliâ.

Explanation of the Plate.

1. A half back view of the flower in its natural position. 2. The same with the outer sepals removed. 3. Labellum. 4, 5. Different views of the columna. 6. Anther. 7. Pollen masses. 8. Grains of pollen.

Fig. A. Tribrachia reptans.

Fig. B. Eria stricta.

Weddell sc.

Tab. 41. B.

ERIA STRICTA.

Nat. Ord. Orchideæ; *Tribus* Malaxideæ. Linn. Syst. Gynandria Monandria.

ERIA, *Lindl. in Bot. Reg.* 904. Pollinia 8 cereacea quaternatim cohærentia. Anthera terminalis opercularis decidua membranacea 2-locularis, loculis obsoletè 4-foveatis. Stigma concavum rostello truncato. *Columna* teres aptera. Labellum anticum concavum trilobum medio callosum, unguiculatum, cum basibus sepalorum lateralium exteriorum connatum. Sepala conniventia subæqualia.—Herbæ *epiphytæ* (Indiæ orientalis) *habitu variæ, vix bulbosæ;* caulibus *vaginatis;* floribus *lutescentibus extùs semper lanatis;* foliis *planis v. nervosis.*

Eria, caulibus teretibus, spicâ secundâ densâ multiflorâ, labello scrotiformi per medium calloso, perianthio lanato clauso, foliis 1—2 lineari-lanceolatis sessilibus.

Descr. *Herba* terrestris? vix repens, *caulibus* fasciculatis, teretibus, squamis magnis, membranaceis, laxis, venosis, demum fibrosis vaginatis. *Folia* 1—2, lanceolata, acuta, coriacea, sessilia, spicæ subæqualia. *Spica* terminalis, densa, secunda, multiflora, pedunculata, *pedunculo* gracili, nudo, basi tantum squamæ rudimento instructo. *Perianthium* clausum, regulare, resupinatum, undique extùs lanatum. *Sepala exteriora* æqualia, valvata, intus glabra: inferioribus invicem et cum basi labelli connatis; *interiora* minora, oblonga, tenuia, diaphana, porrecta. *Labellum* parvum, anticum, scrotiforme, faciei columnæ appressum, ungue cum sepalis 2 exterioribus connato tuberculoso, laminâ trilobâ sub-saccatâ: lobis lateralibus minoribus, tenuioribus, recurvis, super axin labelli per vittam carnosam emarginatam connexis; lobo medio transverso carnoso. *Columna* labelli longitudine, obesa, crassa, alata: alis marginalibus apice productis conniventibus, basi connatis. *Stigma* alis columnæ supertectum. *Anthera* terminalis, opercularis, decidua, bilocularis. *Pollinia* 8, quaterna, cereacea. Partes omnes minutissimæ et visu difficillimæ.

A native of Nepal, whence specimens have been long since communicated by Dr. Wallich.

That this genus is distinct from Mr. Brown's *Octomeria* we do not at all doubt. We lament, however, that specimens of the original species of that genus, *O. graminifolia*, have never fallen in our way.

The *Pinalia alba* of Dr. Hamilton differs so essentially from *Eria*,—especially in the presence of a perfect gland to the pollen masses, and in having a large projecting stigma, at the back of which the anther is placed almost as in *Notylia*, and also in having scarcely any pubescence upon the perianthium,—that it cannot with propriety be considered otherwise than as a peculiar genus.

Explanation of the Plate.

1. A front view of the flower in its natural position. 2. The same artificially expanded. 3. A front view of the columna. 4. A side view of the columna, showing the position of the lip with respect to it. 5. The labellum separate. 6. One set of pollen masses.

APPENDIX.

ORCHIDEARUM SCELETOS.

1. §. *Neottieæ.* Pollen simplex v. è granulis laxè cohærentibus.
   Tribus I. Neottieæ. Anthera stigmate parallela erecta.
   Tribus II. Arethuseæ. Anthera terminalis opercularis.
2. §. *Orchideæ.* Pollen in granulis demùm cereaceis numero indefinitis cohærens.
   Tribus III. Gastrodieæ. Anthera terminalis opercularis.
   Tribus IV. Ophrydeæ. Anthera terminalis erecta v. inversa. Pollinia caudiculata.
3. §. *Epidendreæ.* Pollen in granis demùm cereaceis numero definitis cohærens.
   Tribus V. Vandeæ. Pollinia caudiculâ diaphanâ v. glandulâ stigmati affixa.
   Tribus VI. Epidendreæ. Pollinia caudiculis filiformibus pulvereis replicatis stigmati affixa.
   Tribus VII. Malaxideæ. Pollinia libera; nunc ad apicem materie viscidâ v. pulvereâ aut granulosâ cohærentia.
4. §. *Cypripedieæ.* Antheræ laterales fertiles: intermediâ sterili petaloideâ.
   Tribus VIII. Cypripedieæ.

Obs. *Affinitas* Ordinis summa cum Scitamineis per Neottieas; inferior magisque obscura cum Asphodeleis per Thelymitram et Junceis per Malaxideas.

Tribus I. Neottieæ.

(Orchidearum Sect. 2. *Brown in Hort. Kew.* 5. 197.)

1. Pelexia, *Poiteau.*
2. Goodyera, *R. Br.*
3. Physurus, *Rich.*
4. *Hæmaria (*Goodyera discolor*, Ker.).*
5. Thelymitra, *Forst.*
6. Diuris, *Smith.*
7. Epiblema, *R. Br.*
8. Cryptostylis, *R. Br.*
9. Orthoceras, *R. Br.*
10. Prasophyllum, *R. Br.*
? 11. Cranichis, *Swartz.*
12. *Chloræa (*Epipactis &c. Gavilu*, Feuillée).
13. Ponthieva, *R. Br.*
14. Genoplesium, *R. Br.*
15. Neottia, *L.*
16. Listera, *R. Br.*
17. Spiranthes, *Rich.*
18. *Zeuxina. (*Spiranthoidea capensis labello cum columnâ connato.*)
19. Stenorhynchus, *Rich.*
20. Calochilus, *R. Br.*
21. *Synassa. (*Peruviana in herbario Lambertiano.*)

Obs. Genera distribuenda secundum structuram labelli et columnæ; Arethuseis affinia per Synassam, Epidendreis per Chloræam, Gastrodieis per Cranichin ?, Malaxideis per Listeram et Prasophyllum.

Tribus II. Arethuseæ.

(Orchidearum Sect. 3. *Brown in Hort. Kew.* l. c.)

22. Arethusa, *Swartz.*
23. Limodorum, *Tourn.*
24. Calopogon, *R. Br.*
25. Pogonia, *Juss.*
26. Eriochilus, *R. Br.*
27. Pterostylis, *R. Br.*
28. Glossodia, *R. Br.*
29. Lyperanthus, *R. Br.*
30. Caladenia, *R. Br.*
31. Chiloglottis, *R. Br.*
32. Cyrtostylis, *R. Br.*
33. Corysanthes, *R. Br.*
34. Caleana, *R. Br.*
35. Microtis, *R. Br.*
36. Epipactis, *Swartz.*

---

37. Corallorhiza, *Haller.*

Obs. Tribus per Limodorum transit in Ophrydeas, per Arethusam in Neottieas, per Corallorhizam, cujus pollen semper vidi in granulis subsimplicibus separabile, in Vandeas et Malaxideas.

Tribus III. Gastrodieæ.

(Orchidearum Sect. 4. *Brown Prodrom. fl. N. Holl. p.* 330.)

38. Gastrodia, *R. Br.*
39. Epipogium, *R. Br.*

40. Prescotia, *Lindl.* (An Craniches quædam, præsertim *C. stachyodes*, hujus generis?)
? 41. Hysteria, *Reinwardt.* (Nomen Fungi. An Ophrydea?)

---

42. Epistephium, *Kunth.* (Vanillæ proximum monente amico Brown.)
43. Vanilla, *Swartz.*

Obs. Epistephium et Vanilla proximæ sunt Epidendreis, Prescotia hinc Malaxideis inde Neottieis mediante Cranichi, Epipogium Arethuseis.

Tribus IV. Ophrydeæ.

(Orchidearum Sect. 1. *Brown in Hort. Kew.* l. c.)

Sect. 1. *Anthera erecta.*

44. Orchis, *L.*
45. Glossula, *Lindl.*
46. Anacamptis, *Rich.*
47. Nigritella, *Rich.*
? ? 48. Diplomeris, *Don.* (An vitiosè descripta?)
49. Aceras, *R. Br.*
50. Ophrys, *L.*
51. Serapias, *L.*
52. Altensteinia, *Kunth.*

---

53. Disa, *Bergius.*
54. Habenaria, *W.*
55. Gymnadenia, *R. Br.*
56. Bonatea, *W.*
57. Platanthera, *Rich.*
58. Chamorchis, *Rich.*
59. Herminium, *R. Br.*
60. Holothrix, *Rich.*
61. Dryopæia, *Pet. Th.*

Sect. 2. *Anthera resupinata v. horizontalis.*

? 62. Bartholina, *R. Br.*

---

63. Repandra, *Lindl.*
64. Pterygodium, *Swartz.*
65. Disperis, *Swartz.*
66. Satyrium, *Swartz.*
67. Corycium, *Swartz.*

Obs. Ophrydeæ, nucleum ordinis constituentes, characteribus strictissimis a polline desumptis circumscribuntur. Ab Orchide transitio fit in Vandeas et Arèthuseas, ab Herminio in Malaxideas. Sectiones dividendæ secundum glandulas cucullatas vel nudas.

Tribus V. Vandeæ.

(Orchidearum Sectionis ultimæ *R. Br.* pars.)

68. Calanthe, *R. Br.*
? 69. Octomeria, *R. Br.*
70. Arpophyllum, *La Llave.*
71. Pinalia, *Lindl.*
72. Maxillaria, *Fl. Per.*
73. Polystachya, *Hooker.*
74. Camaridium, *Lindl.*
75. Ornithidium, *Salisb.*
76. Pholidota, *Lindl.*
77. Sunipia, *Lindl.*
78. Telipogon, *Kunth.*
79. Ornithocephalus, *Hooker.*
80. Cryptarrhena, *R. Br.*
81. Psittacoglossum, *La Llave.*
82. Alamania, *La Llave.*
83. Tipularia, *Nuttall.*
84. Aerides, *Loureiro.*
85. Vanda, *R. Br.*
86. Sarcanthus, *Lindl.*
87. Aeranthes, *Lindl.*
88. Angræcum, *Pet. Thouars.*
89. Cryptopus, *Lindl.*
90. Œonia, *Lindl.*
91. Ionopsis, *Kunth.*
92. Cymbidium, *Swartz.*
93. Lissochilus, *R. Br.*
94. Geodorum, *Jackson.*
95. Sobralia, *Fl. Per.*
96. Gastrochilus, *Don.*
97. Dipodium, *R. Br.*
98. Oncidium, *Swartz.*
99. Macradenia, *R. Br.*
100. Brassia, *R. Br.*
101. Odontoglossum, *Kunth.*
102. Cyrtopodium, *R. Br.*
103. Cyrtochilum, *Kunth.*
104. Cuitlauzina, *La Llave.*
105. Anguloa, *Fl. Per.*
106. Catasetum, *Rich.*
107. Eulophia, *R. Br.*
108. Xylobium, *Lindl.*
109. Trizeuxis, *Lindl.*
110. Fernandezia, *Fl. Per.*
111. Rodriguezia, *Fl. Per.*
112. Gomeza, *R. Br.*
113. Cirrhæa, *Lindl.*
114. Notylia, *Lindl.*
115. Megaclinium, *Lindl.*
116. Trichoceros, *Kunth.*
117. Masdevallia, *Fl. Per.*
118. Gongora, *Fl. Per.*

Obs. Calanthe, Tipularia et Eulophia, affines sunt Ophrydeis; Octomeria, Maxillaria, &c. Malaxideis; Notylia Neottieis; Sobralia Epidendreis. Genera distribuenda secundum numerum polliniorum. Cautè ne pollinia imperfecta, quæ sæpius occurrunt in Vandeis et Epidendreis, pro completis habeas, ut ego quondam in Angræco et Polystachya, cavendum.

Tribus VI. Epidendreæ.

(Orchidearum Sectionis ultimæ *R. Br.* pars.)

119. Bletia, *Fl. Per.*
120. Brassavola, *R. Br.*
121. Epidendrum, *L.*
122. Cattleya, *Lindl.*

APPENDIX.

123. Broughtonia, *R. Br.*
124. Isochilus, *R. Br.*
125. *Dinema. (*Ep. polybulbon*, Hooker.)

Obs. Characteres hujus tribus certissimi transitionem exhibent a Vandeis in Malaxideas. Pollinia in illis caudiculâ sæpius simplice glandulâque colligantur; in Epidendreis colligatio fit imperfecta, caudicula dividitur, glandula deest; in Malaxideis caudicula et glandula semper omninò desunt, et pollinia v. omninò sunt libera, v. materie pulvereâ apicibus tantùm cohærent.

Tribus VII. Malaxideæ.

(Orchidearum Sectionis ultimæ *R. Br.* pars.)

126. Eria, *Lindl.*
127. Acianthus, *R. Br.* (In *Aciantho exserto* vidi pollinia 8 cereacea quaternatim apicibus granulosis cohærentia.)
128. Dendrobium, *Swartz.*
129. Pachyphyllum, *Kunth.*
130. Stenoglossum, *Kunth.*
131. Anisopetalum, *Hooker.*
132. Restrepia, *Kunth.*
133. Cœlogyne, *Lindl.*
134. Malaxis, *L.*
135. Microstylis, *Nuttall.*
136. Liparis, *Rich.*
137. Dienia, *Lindl.*
138. Empusa, *Lindl.*
139. Calypso, *Salisb.*
140. Pleurothallis, *R. Br.*
141. Stelis, *Swartz.*
142. Tribrachia, *Lindl.*
143. Bulbophyllum, *Pet. Th.*
144. Pedilea, *Lindl.*
? 145. Zygoglossum, *Reinwardt.*
? 146. Schænorchis, *Reinwardt.*

Obs. Ultima forma ordinis. Cohæsio pollinis in tribubus præcedentibus quodammodo incompleta, hic, caudiculâ, glandulâ, materieque omni superfluâ semotis, perfecta redditur.

Tribus VIII. Cypripedieæ.

147. Cypripedium, *L.*

Obs. Hujus tribus affinitas quam maximè obscura; quandam cum Malaxideis analogiam exhibet mediante Calypsû, sed omninò imperfectam. Genera reverà affinia fortè nondum detecta.

Incerta vel Tribus Incertæ.

I. Tribus incertæ.

148. Sarcochilus, *R. Br.*
149. Cirrhopetalum, *Lindl.* (Huc Epidendrum umbellatum, *Forst.*, quod Cyrtostyli affine videtur secundum iconem Forsterianum et Dryandri notulas in schedis Banksianis.)
150. Renanthera, *Loureiro.* (Forte *Vandea.*)
151. Acriopsis, *Reinwardt.*
152. Callista, *Lour.*
153. Thrixspermum, *Lour.*
154. Galeola, *Lour.* (Cranichis secundum beatum Swartzium; vix autem.)

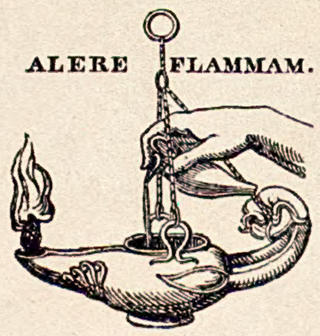
II. Genera omninò incerta.

? 155. Isotria, *Rafinesque.* (Forsan non Orchidea.)
? 156. Diphryllum, *Rafinesque.* (Uti prior characteribus pessimis confusum.)
? 157. Ceraia, *Loureiro.* (Vitiosè descripta, uti omnes ejusdem auctoris Orchideæ.)

✓ Original Drawings of the Plates acquired by Bot. Dept. Oct. 1897.

INDEX.

	Fol.	Tab.
* Amaryllis solandræflora	11	11
* ——— vittata major	12	12
* Angræcum maculatum	15	15
* Astrapæa Wallichii	14	14
* Bromelia fastuosa	1	1
Catasetum Hookeri, *Lindl.*	40	40
Campomanesia, *Fl. Per.*	16	—
* Cattleya citrina	37	—
* ——— Forbesii	37	—
* ——— labiata	33	33
* ——— Loddigesii	37	37
* Cephaëlis calycina	21	21
Chlidanthus fragrans, *Herbert*	34	34
Chloranthus monostachys, *R. Br.*	17	17
Clavija, *Fl. Per.*	26	—
* Cœlogyne cristata	33	—
* ——— humilis	37	—
* ——— præcox	37	—
* ——— punctulata	33	—
Cypripedium insigne, *Wall.*	32	32
Dendrobium polystachyon, *Swartz*	20	20
* Digitalis lutea, ε	35	35
* Eria stricta	41	41
Goodyera pubescens, *R. Br.*	25	25
Gusmannia tricolor, *Fl. Per.*	8	8
* Ionopsis utricularioides	39	39 *a*
Lissochilus speciosus, *R. Br.*	31	31
* Metrosideros vera, *Rumph.*	18	18
* Murucuja Baueri	36	36
Myrtus disticha, *Swartz.*	19	19
Nelitris Jambosella, *Gærtn.*	16	—
* ——— paniculata	16	—
Œnothera dentata, *Fl. Per.*	10	10
* Oncidium cuneatum	27	—
* Oncidium barbatum	27	27
* ——— juncifolium	27	—
* ——— pauciflorum	27	—
* Olynthia	19	—
Ornithogalum fimbriatum, *W.*	28	28
Oxyanthus speciosus, *Dec.*	13	13
* Papaver bracteatum	23	23
* Pilea herniarioides	4	—
* —— muscosa	4	4
* —— trianthemoides	4	—
Pimenta officinalis	19	—
* Primula sinensis	7	7
* Psidium Cattleianum, *Sabine*	16	16
Pterospora Andromedea, *Nutt.*	5	5
Puschkinia scilloides, *Adam.*	24	24
* Raphiolepis rubra	3	3
Reseda mediterranea, *Jacq.*	22	22
Resedaceæ, *Lindley*	22	—
* Sarcanthus rostratus	39	39 *a*
* ——— teretifolius	6	6
Securinega nitida, *W.*	9	9
Sobralia, *Fl. Per.*	33	—
* Spiranthes pudica	30	30
* Theophrasta Jussiæi	26	26
* Tribrachia hirta	41	—
* ——— odoratissima	41	—
* ——— pendula	41	—
* ——— purpurea	41	—
* ——— reptans	41	41
* Trizeuxis falcata	2	2
Triumfetta rhomboidea, *Jacq.*	29	29
* Vanda multiflora	38	38
——— *teretifolia*	6	6

FINIS.

PRINTED BY RICHARD TAYLOR, SHOE-LANE.